PATENTS
ODS-10

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Appellants	:	Kevin D. Satterfield et al.
Application No.	:	09/516,428 Confirmation No. : 3649
Filed	:	March 1, 2000
For	:	INTERACTIVE WAGERING SYSTEM WITH CRITERIA WAGERING
Art Unit	:	3628
Examiner	:	Akiba K. Robinson Boyce

Mail Stop Appeal Briefs - Patents
Hon. Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

New York, New York
October 13, 2009

APPEAL BRIEF UNDER 37 C.F.R. § 41.37

Sir:

Appellants are filing this Appeal Brief in support of the Notice of Appeal filed concurrently herewith from the rejection of claims 1-17, 19-50, and 52-67 in the non-final Office Action dated April 13, 2009.

The fees required under 37 C.F.R. § 41.20(b)(1) and (b)(2) were already paid in connection with the previous appeal. Appellants request that these fees be applied to this new appeal.

The Director is also hereby authorized to charge any additional fees that may be due in connection with this Appeal Brief, or credit any overpayment of the same, to Deposit Account No. 06-1075 (Order No. 003043-0010).

In view of the arguments and authorities set forth below, the Board should find the rejection of claims

1-17, 19-50, and 52-67 to be in error, and the Board should reverse the rejection.

This Brief has the following appendices:

Claims Appendix

Appendix A: Copy of claims 1-17, 19-50, and 52-67 involved in this appeal;

Evidence Appendices

Appendix B: Copy of the non-final Office Action mailed April 13, 2009;

Appendix C: Copy of the Advisory Action mailed August 11, 2008;

Appendix D: Copy of Graves et al. U.S. Patent No. 5,830,067 (hereinafter "Graves");

Appendix E: Copy of Brenner et al. U.S. Patent No. 6,099,409 (hereinafter "Brenner"); and

Appendix F: Copy of Hedges et al. U.S. Patent 4,467,424 (hereinafter "Hedges").

Related Proceedings Appendix

None.

(i) Real Party in Interest

Appellants respectfully advise the Board that the real party in interest in the above-identified patent application is ODS Properties, Inc., a corporation organized and existing under the laws of the State of Delaware, and having an office and place of business at

6701 Center Drive West, Los Angeles, CA 90045, which is the assignee of this application.

(ii) Related Appeals and Interferences

Appellants respectfully advise the Board that there are no other appeals or interferences known to appellants, their legal representative, or their assignee that will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(iii) Status of Claims

Claims 1-17, 19-50, and 52-67 are rejected in this application and are on appeal. Claims 18 and 51 have been cancelled.

(iv) Status of Amendments

There have been no amendments filed subsequent to the April 13, 2009 non-final Office Action.

(v) Summary of Claimed Subject Matter

Independent claim 1 recites a method for interactive wagering with an interactive wagering application. A user is allowed to use the interactive wagering application to select desired wagering criteria (*see, e.g.*, FIGS. 2 and 3 and page 30, line 7 - page 32, line 27). Racing data is received about a plurality of races (*see, e.g.*, FIG. 1 and page 11, line 17 - page 12, line 23). The interactive wagering application determines whether a desired wagering opportunity exists by comparing at least a portion of the received racing data to the

wagering criteria (*see, e.g.*, page 2, lines 26-31 and page 39, lines 9-22). For example, the interactive wagering application may identify that a particular wagering opportunity exists when the received racing data includes a particular horse's name, racetrack surface, or racetrack distance. The interactive wagering application is then used to automatically take a particular action in response to determining that a desired wagering opportunity exists, wherein the particular action comprises at least providing a notification to the user that the desired wagering opportunity exists (*see, e.g.*, page 39, line 8 - page 40, line 28).

Similarly, independent claim 34 recites a computer-readable medium for use in an interactive wagering system. The computer-readable medium comprises computer-readable instructions for allowing a user to select desired wagering criteria (*see, e.g.*, FIGS. 2 and 3 and page 30, line 7 - page 32, line 27), receive racing data about a plurality of races (*see, e.g.*, FIG. 1 and page 11, line 17 - page 12, line 23), determine whether a desired wagering opportunity exists by comparing at least a portion of the received racing data to the wagering criteria (*see, e.g.*, page 2, lines 26-31 and page 39, lines 9-22), and automatically taking a particular action in response to determining that a desired wagering opportunity exists, wherein the particular action comprises at least providing a notification to the user that the desired wagering opportunity exists (*see, e.g.*, page 39, line 8 - page 40, line 28).

Independent claim 29 recites a method for interactive wagering with an interactive wagering

application implemented using a set-top box connected to a television (*see, e.g.*, user television equipment 22). A user is provided with an opportunity to select a given horse using the interactive wagering application (*see, e.g.*, FIG. 2 and page 30, line 7 - page 32, line 27). Racing data is received about a plurality of races (*see, e.g.*, FIG. 1 and page 11, line 17 - page 12, line 23). The interactive wagering application determines if a given horse is to run in a race by comparing at least a portion of the received racing data to an identification of the given horse (*see, e.g.*, FIGS. 5 and 6 and page 33, lines 17-29). The interactive wagering application is used to automatically provide a notification to the user that the horse is to run in a race and place a wager for that horse (*see, e.g.*, page 2, lines 26-31 and page 39, line 8 - page 40, line 28).

Similarly, independent claim 32 recites an interactive wagering system including user television equipment (*see, e.g.*, user television equipment 22) configured to provided the user with an opportunity to select a given horse using the interactive wagering application (*see, e.g.*, FIG. 2 and page 30, line 7 - page 32, line 27), receive racing data about a plurality of races (*see, e.g.*, FIG. 1 and page 11, line 17 - page 12, line 23), determine if a given horse is to run in a race by comparing at least a portion of the received racing data to an identification of the given horse (*see, e.g.*, FIGS. 5 and 6 and page 33, lines 17-29), and automatically provide a notification to the user that the horse is to run in a race and place a wager for that horse (*see, e.g.*, page 2, lines 26-31 and page 39, line 8 - page 40, line 28). A

transaction processing and subscription management system handles the automatically placed wager (*see, e.g.*, transaction processing and subscription management system 24).

(vi) Grounds of Rejection to be Reviewed on Appeal

The grounds of rejection to be reviewed on this appeal are:

a) the rejection of claims 1-17, 19-27, 34-50, 52-60, 62, 63, 66, and 67 under 35 U.S.C. § 103(a) as being obvious from Graves and Brenner;

b) the rejection of claims 29-33, 64, and 65 under 35 U.S.C. § 103(a) as being obvious from Graves and Brenner; and

c) the rejection of claims 28 and 61 under 35 U.S.C. § 103(a) as being obvious from Graves, Brenner, and Hedges.

(vii) Argument

A. Claims 1-17, 19-27, 34-50, 52-60, 62, 63, 66, and 67

Independent claims 1 and 34 were rejected under 35 U.S.C. § 103(a) as being obvious from Graves and Brenner.

Graves refers to an electronic or mechanical device that acts as an automated agent enabling clients to participate in games (*e.g.*, bingo games) without being present at the site of the game. *See* Graves, Abstract, col. 2, lines 31-59. In one embodiment of Graves, the CPU

may "query the client as to his preference of how he wants to make any necessary strategic decisions" about playing the game. *See* Graves col. 4, line 62 - col. 5, line 3. This information may then be saved to the player's preference file, and the proxy player machine may then automatically make certain decisions based on the data in each player's preference file. *See* Graves, col. 5, lines 3-21.

Brenner refers to a system for interactive off-track wagering on races. *See* Brenner, Abstract. Menu options are provided for a user to select a desired racetrack, race, wager type, wager amount, and runners. *See* Brenner, col. 2, lines 48-54. A video and data distribution system may provide all the data and other information necessary to implement the wagering system. *See* Brenner, col. 4, lines 15-46.

1. The Combination of Graves and Brenner Does Not Determine Whether a Desired Wagering Opportunity Exists by Comparing Received Racing Data to Desired Wagering Criteria

In Graves, a player has to manually seek out an opportunity to play a game. For example, Graves states that "when a client requests that he wants to purchase a chance, CPU fetches the directory, brief description, and the schedule of all available games from Record of Games" (col. 4, lines 55-58). After the player reviews the available games, the player "selects a game" (Graves, col. 4, line 59). Thus, rather than determining whether a wagering opportunity exists by comparing received data with

desired wagering criteria, as recited by appellants' independent claims 1 and 34, a player of Graves' system must manually request the available games and then make a selection to play a certain game.

In order to show this claimed feature, the Examiner points to a section of Graves that refers to a proxy player machine. This proxy player machine can make "any necessary strategic decisions" on behalf of the player. Graves, col. 4, lines 63-66. For example, the proxy player machine may determine when to make changes in "the amount wagered per chance, when to make changes in the number or character of chances in play, etc., as a function of such variables as number of players, size of the prizes, number of correlations accumulated on each chance, etc." Graves, col. 4, line 64 - col. 5, line 4.

At no time, however, does Graves show or reasonable suggest that this proxy player machine determines whether a desired wagering opportunity actually exists. Moreover, there is no disclosure in Graves that shows or suggests making this determination by comparing received racing data to desired wagering criteria, as recited by independent claims 1 and 34. For example, a user of appellants' invention may specify a horse and jockey combination as a desired wagering criteria. When the received racing data indicates that the specified horse and jockey combination is actually running in a race, a desired wagering opportunity may be determined to exist.

The Examiner appears to suggest that automatically making certain strategic wagering decisions on behalf of the user is akin to determining whether a desired wagering opportunity exists. *See* Office Action, p.

4 and Advisory Action, page 2. Appellants disagree and submit that this interpretation is unreasonable. Although the proxy player machine may change the number and character of chances in play, the proxy player machine does not actually determine if a desired *wagering opportunity exists*. For example, using the bingo example described in Graves, the desired wagering opportunity would be bingo itself (or one particular bingo game within the bingo interface), not the number or character of chances in play. Rather, in Graves, the user manually determines what wagering opportunities exist by looking at a menu screen of available games. *See* Graves, col. 4, lines 55-58. As described above, after the menu screen of available games is displayed, the user must then manually select a game (*e.g.*, bingo) to play. Making certain strategic decisions while already playing the manually selected game cannot be considered "determining whether a desired wagering opportunity exists," as recited by the independent claims.

Brenner does not cure these deficiencies in Graves. The Office Action only relies on Brenner to show wagering on races and receiving racing data. *See* Office Action, pp. 4-5. The Office Action does not even contend that Brenner shows or suggests determining whether a desired wagering opportunity exists by comparing received racing data to desired wagering criteria. As such, the combination of Graves and Brenner also fails to show or suggest this claimed feature.

For at least the foregoing reasons, appellants respectfully submit that independent claims 1 and 34 are allowable over Graves. Dependent claims 2-17, 19-28, 35-50, 52-63, 66, and 67, which include all the limitations of

one of independent claims 1 and 34, are allowable for at least the same reasons. Appellants respectfully request, therefore, that the Board overturn the rejection of independent claims 1 and 34 and dependent claims 2-17, 19-28, 35-50, 52-63, 66, and 67.

2. The Combination of Graves and Brenner Does Not Provide a Notification to the User That the Desired Wagering Opportunity Exists

In the Office Action and Advisory Action, the Examiner points to two sections of Graves that allegedly show the interactive wagering application automatically taking a particular action in response to determining that a desired wagering opportunity exists, "wherein the particular action comprises at least providing a notification to the user that the desired wagering opportunity exists," as recited by independent claims 1 and 34.

Appellants will address each of the two sections of Graves below.

i. Graves' Proxy Player Machine

The Office Action and Advisory Action allege that the claimed notification to the user that a desired wagering opportunity exists is represented by "automatic wagering" in Graves because wagering cannot occur if the opportunity does not exist. *See* Office Action, page 4. While a wagering opportunity must exist in order to place a wager, Graves' proxy player machine does not automatically provide a notification to the user that a desired wagering

opportunity exists, as recited in independent claims 1 and 34.

For example, Graves mentions that after a player selects a game, a record of what the player has purchased is stored in a player preference file. *See* Graves, col. 4, lines 55-63. This information stored in the player preference file may then be used to "customize information likely to be of value" to the player. *Id.* At no time, however, does Graves mention that information stored in a player preference file may be used to automatically provide a notification to the user that a desired wagering opportunity exists, as recited in independent claims 1 and 34.

First, as described above, a user of Graves must manually seek out wagering opportunities. There is no action taken automatically in Graves in response to determining that a desired wagering opportunity exists, as recited by independent claims 1 and 34. Second, the "automatic wagering" cited by the Examiner is used only to make wagering selections for the user after the user selects to play a game, not for providing notifications. Third, the results reported by the proxy player machine of Graves "report the results of the game after each ball draw or after the game is completed" (col. 6, lines 15-21, emphasis added). Graves' results reporting does not provide a notification that a desired wagering opportunity actually exists. Rather, at most the results provide a notification that a wagering opportunity has passed (*i.e.*, the game has completed) and the wagering opportunity no longer exists.

For at least these reasons, appellants believe that the Office Action's reliance on Graves' proxy player machine to show appellants' claimed automatic notification in response to determining a desired wagering opportunity exists is misplaced. The Office Action does not even contend that Brenner shows this claimed feature. Appellants respectfully submit, therefore, that independent claims 1 and 34 are allowable over Graves and Brenner. Dependent claims 2-17, 19-28, 35-50, 52-63, 66, and 67, which include all the limitations of one of independent claims 1 and 34, are allowable for at least the same reasons. Appellants request, therefore, that the Board overturn the rejection of independent claims 1 and 34 and dependent claims 2-17, 19-28, 35-50, 52-63, 66, and 67.

ii. Graves' Free Samples of Games

The Examiner also contends that Graves' free samples of games show appellants' claimed automatic notification. *See* final Office Action, page 16. Appellants respectfully disagree. Graves provides "free samples of play of each available game if the client wishes to play them" (col. 6, lines 49-50). Even assuming *arguendo* that the free samples of games could be considered "wagering opportunities," there is nothing in Graves that shows or suggests that these free samples of each available game are automatically provided in response to determining that a desired wagering opportunity exists.

Graves states that at step 86 of FIG. 5, the proxy player machine may query the client about his "preferred games." Graves further states that at step 86 the proxy player machine may also "provide free samples of

play of each available game." *See* Graves, col. 6, lines 42-65 (emphasis added). Because the free samples are provided at the same step where the user is queried about preferred games, the free samples are not be based on or provided in response to a client's selection of preferred games. Furthermore, Graves explicitly states that the free samples are for "each available game" and not based on the user's preferred games. Moreover, Graves teaches using the selected preferred games at subsequent step 88 to determine whether the preferred games are dynamic decision games. Thus, Graves teaches using the preferred games for a different purpose than appellants' claimed invention.

As such, appellants submit that there is no indication in Graves that these free samples are provided automatically in response to determining that a desired wagering opportunity exists. Moreover, as discussed above, there is no disclosure in Graves that shows or reasonable suggests determining that a desired wagering opportunity exists by comparing any received racing data to user selected wagering criteria, as recited by independent claims 1 and 34.

In view of the foregoing, Graves fails to show or suggest automatically providing a notification to the user that a desired wagering opportunity exists in response to a determination that a desired wagering opportunity exists by comparing received racing data to user selected wagering criteria as specified by appellants' claims 1 and 34. The Office Action does not even contend that Brenner shows this claimed feature. Neither the proxy player machine in Graves nor the free samples of play show or suggest each

and every element of appellants' independent claims 1 and 34.

For at least the foregoing reasons, appellants respectfully submit that independent claims 1 and 34 are allowable over Graves and Brenner. Dependent claims 2-17, 19-28, 35-50, 52-63, 66, and 67, which include all the limitations of one of independent claims 1 and 34, are allowable for at least the same reasons. Appellants respectfully request, therefore, that the rejections of independent claims 1 and 34 and dependent claims 2-17, 19-28, 35-50, 52-63, and 66-67 be overturned by the Board.

B. Claims 29-33, 64, and 65

Independent claims 29 and 32 were rejected under 35 U.S.C. § 103(a) as being obvious from Graves and Brenner.

Independent claims 29 and 32 recite providing a user with an opportunity to select a given horse using an interactive wagering application. Racing data is received about a plurality of races. The interactive wagering application determines if a given horse is to run in a race by comparing at least a portion of the received racing data to an identification of the given horse. The interactive wagering application is used to automatically provide a notification to the user that the horse is to run in a race and place a wager for that horse.

In the Office Action, the Examiner alleges that it was obvious at the time of the invention to modify the system of Graves with the racetrack wagering as taught by Brenner to show appellants' claimed invention. *See* Office

Action, pp. 10-11. Even assuming *arguendo* that the system of Graves can be combined with the racetrack wagering of Brenner, appellants respectfully submit that neither Graves nor Brenner, alone or in combination, teaches automatically providing a notification to the user that a horse is about to run and placing a wager for the horse in response to determining that the horse is to run in at least one race. As described above, Graves' free samples of play and proxy player machine do not show or suggest appellants' claimed automatically provided notification that the horse is to run in a race. Accordingly, even if Graves' free samples of play and proxy player machine were modified based on Brenner's racetrack wagering, the combination would still not show or suggest each and every element of appellants' independent claims 29 and 32.

For at least the foregoing reason, appellants respectfully submit that independent claims 29 and 32 are allowable over Graves and Brenner. Appellants respectfully request, therefore, that the rejections of independent claims 29 and 32 and dependent claims 30, 31, 33, 64, 65 be overturned by the Board.

C. Claims 28 and 61

Claims 28 and 61 are allowable for additional reasons. The Office Action rejected these claims under § 103(a) as being obvious from Graves, Brenner, and Hedges.

As admitted by the Office Action, neither Graves nor Brenner shows or suggests providing the user with an opportunity to select an "expiration time for automatic wagering." *See* Office Action, p. 18. The Office Action

contends that Hedges shows this claimed feature. *Id.* Appellants disagree.

Hedges refers to a remote gaming system with a live game display. *See* Hedges, Abstract. One of Hedges' gaming system displays includes "items relative to the player's account such as total credit remaining and items pertinent to the game such as wagering limits, payoff odds, and time remaining in which to enter a bet." Graves, col. 4, ll. 8-16.

The Office Action seems to suggest that an expiration time to enter a bet is the same as an expiration time for automatic wagering. *See* Office Action, p. 18. Appellants submit that this interpretation is unreasonable. It is clear from Hedges' display screens (for example, the display screen of FIG. 4) that the "time remaining in which to enter a bet" is merely an indication of how many seconds before the current game closes. *See* "15 Seconds to Close" indication in FIG. 4. This displayed indication cannot be considered "an opportunity to select an expiration time for automatic wagering," as recited by appellants' claims 28 and 61. First, the Office Action has pointed to no reference that shows automatic wagering. Therefore, the combination of Graves, Brenner, and Hedges cannot show an expiration time for automatic wagering. Second, the "15 Seconds to Close" displayed indication is not interactive in any way. Thus, a user is not allowed to "select" any expiration time, as recited by appellants' claims. Third, a closing time for a bet entry cannot be considered an expiration time for automatic wagering. The prior is set in advance by the gaming establishment and indicates the close of manual betting, while the latter is set by the

user and indicates the user's preferences relating to automatic betting performed on behalf of the user.

For at least the foregoing reasons, appellants respectfully submit that claims 28 and 61 are allowable over Graves, Brenner, and Hedges. Appellants respectfully request, therefore, that the rejections of these claims be overturned by the Board.

C. Conclusion

For the foregoing reasons, appellants submit that claims 1-17, 19-50, and 52-67 are allowable over the prior art of record. The Examiner's rejections of these claims should, therefore, be reversed.

Respectfully submitted,

/Brian E. Mack/
Brian E. Mack
Registration No. 57,189
Attorney for Appellants
Ropes & Gray LLP
Customer No. 1473

(viii) Claims Appendix

CLAIMS APPENDIX A
CLAIMS ON APPEAL

1. A method for interactive wagering with an interactive wagering application implemented using user equipment, comprising:

allowing a user at the user equipment to use the interactive wagering application to select desired wagering criteria;

receiving racing data about a plurality of races;

determining whether a desired wagering opportunity exists by comparing at least a portion of the received racing data to the wagering criteria; and

using the interactive wagering application to automatically take a particular action in response to determining that a desired wagering opportunity exists, wherein the particular action comprises at least providing a notification to the user that the desired wagering opportunity exists.

2. The method defined in claim 1 further comprising using the interactive wagering application to provide the user with an opportunity to select which particular action is taken whenever the wagering criteria are satisfied.

3. The method defined in claim 1 wherein the interactive wagering application is implemented using user television equipment, the method further comprising using

the interactive wagering application implemented on the user television equipment to determine whether the wagering criteria are satisfied.

4. The method defined in claim 1 further comprising using the interactive wagering application to provide the user with an opportunity to select a particular racetrack as one of the wagering criteria.

5. The method defined in claim 1 further comprising using the interactive wagering application to provide the user with an opportunity to select a particular horse as one of the wagering criteria.

6. The method defined in claim 1 further comprising using the interactive wagering application to provide the user with an opportunity to select a particular horse as one of the wagering criteria by searching for a desired horse with an on-screen user interface that allows the user to enter a search character string with a remote control.

7. The method defined in claim 1 further comprising using the interactive wagering application to provide the user with an opportunity to select a particular jockey as one of the wagering criteria.

8. The method defined in claim 1 further comprising using the interactive wagering application to provide the user with an opportunity to select a particular trainer as one of the wagering criteria.

9. The method defined in claim 1 further comprising using the interactive wagering application to provide the user with an opportunity to select a particular track surface as one of the wagering criteria.

10. The method defined in claim 1 further comprising using the interactive wagering application to provide the user with an opportunity to select a particular race distance as one of the wagering criteria.

11. The method defined in claim 1 further comprising using the interactive wagering application to provide the user with an opportunity to select a particular racing statistic as one of the wagering criteria.

12. The method defined in claim 1 further comprising using the interactive wagering application to provide the user with an opportunity to select a particular silk color as one of the wagering criteria.

13. The method defined in claim 1 further comprising using the interactive wagering application to provide the user with an opportunity to select a particular amount by which the odds for a horse change from that horse's morning line odds as one of the wagering criteria.

14. The method defined in claim 1 further comprising providing the user with an opportunity to select whether the action taken involves the automatic placing of a wager whenever the wagering criteria are satisfied.

15. The method defined in claim 1 wherein the action taken involves the automatic placing of a wager

whenever the wagering criteria are satisfied, the method further comprising providing the user with an opportunity to select a wager amount and wager type associated with the wagering criteria prior to the automatic placing of the wager.

16. The method defined in claim 1 wherein there are multiple sets of wagering criteria established by the user each with an associated action to be taken when that set of wagering criteria is satisfied, the method further comprising providing the user with an opportunity to select a different wager amount and wager type for each of the multiple sets of wagering criteria.

17. The method defined in claim 1 further comprising providing different user interfaces with the wagering application for selecting different types of wagering criteria.

18. (Canceled)

19. The method defined in claim 1 wherein the action taken involves notification of the user at a set-top box connected to a television, the method further comprising notifying the user by displaying a partial-screen overlay message on top of a screen currently being displayed on the television.

20. The method defined in claim 1 wherein the action taken involves notification of the user, the method further comprising notifying the user that the wagering criteria have been satisfied using an e-mail message.

21. The method defined in claim 1 wherein the action taken involves notification of the user, the method further comprising notifying the user that the wagering criteria have been satisfied using a wireless message.

22. The method defined in claim 1 wherein the action taken involves notification of the user at a set-top box connected to a television, the method further comprising notifying the user that the wagering criteria have been satisfied by displaying a message on the television.

23. The method defined in claim 1 further comprising using the wagering application to provide a display screen containing a summary of which types of wagering criteria have been established.

24. The method defined in claim 1 further comprising using the wagering application to provide a display screen containing a summary of which types of wagering criteria have been established, wherein the summary includes information on wager amounts and wager types that the user has established for use whenever various sets of wagering criteria are satisfied.

25. The method defined in claim 1 further comprising:

using the wagering application to provide a display screen containing a summary of which types of wagering criteria have been established, wherein the summary includes information on wager amounts and wager types that the user has established for use whenever

various sets of wagering criteria are satisfied; and

displaying wagering criteria details for a given one of the sets of wagering criteria when the user selects that set from the summary.

26. The method defined in claim 1 further comprising using the wagering application to limit automatic wagering based on monetary wagering limits.

27. The method defined in claim 1 further comprising:

providing the user with an opportunity to select a desired monetary wagering limit; and

using the wagering application to limit automatic wagering based on the monetary wagering limit.

28. The method defined in claim 1 further comprising using the wagering application to provide the user with an opportunity to select an expiration time for automatic wagering.

29. A method for interactive wagering on horse races with an interactive wagering application implemented using a set-top box connected to a television, comprising:

providing a user with an opportunity to select a given horse using the interactive wagering application;

receiving racing data about a plurality of races;

determining if the given horse is to run in

at least one race by comparing at least a portion of the received racing data to an identification of the given horse; and

automatically providing a notification to the user that the horse is to run in the at least one race and placing a wager for the given horse in response to determining that the given horse is to run in the at least one race.

30. The method defined in claim 29 further comprising providing the user with an opportunity to select the amount of the wager and the wager type with the interactive wagering application.

31. The method defined in claim 29 further comprising:

providing the user with an opportunity to select multiple horses using the wagering application; and

automatically placing wagers for each horse when it is determined that the horse is to run in a particular race.

32. An interactive wagering system in which an interactive wagering application is used to provide a user with an opportunity to place wagers on races to be run, comprising:

user television equipment configured to:

provide the user with an opportunity to select a given horse using the interactive wagering application;

receive racing data about a plurality

of races;

determine if the given horse is to run in at least one race by comparing at least a portion of the received racing data to an identification of the given horse; and

automatically provide a notification to the user that the horse is to run in the at least one race and place a wager for the given horse in response to determining that the given horse is to run in the at least one race; and

a transaction processing and subscription management system that handles the automatically placed wager.

33. The interactive wagering system defined in claim 32 further comprising user computer equipment separate from the user television equipment, wherein the interactive wagering application notifies the user at the user computer equipment by e-mail when the automatic wager has been placed.

34. A computer-readable medium for use in an interactive wagering system, the computer-readable medium comprising computer-readable instructions recorded thereon for:

allowing a user to select desired wagering criteria;

receiving racing data about a plurality of races;

determining whether a desired wagering opportunity exists by comparing at least a portion of the received racing data to the wagering criteria; and

automatically taking a particular action in response to determining that a desired wagering opportunity exists, wherein the particular action comprises at least providing a notification to the user that the desired wagering opportunity exists.

35. The computer-readable medium defined in claim 34 further comprising computer-readable instructions recorded thereon for providing the user with an opportunity to select which particular action is taken whenever the wagering criteria are satisfied.

36. The computer-readable medium defined in claim 34 wherein the computer-readable medium is used with user television equipment.

37. The computer-readable medium defined in claim 34 further comprising computer-readable instructions recorded thereon for providing the user with an opportunity to select a particular racetrack as one of the wagering criteria.

38. The computer-readable medium defined in claim 34 further comprising computer-readable instructions recorded thereon for providing the user with an opportunity to select a particular horse as one of the wagering criteria.

39. The computer-readable medium defined in claim 34 further comprising computer-readable instructions recorded thereon for providing the user with an opportunity to select a particular horse as one of the wagering criteria by searching for a desired horse with an on-screen

user interface that allows the user to enter a search character string with a remote control.

40. The computer-readable medium defined in claim 34 further comprising computer-readable instructions recorded thereon for providing the user with an opportunity to select a particular jockey as one of the wagering criteria.

41. The computer-readable medium defined in claim 34 further comprising computer-readable instructions recorded thereon for providing the user with an opportunity to select a particular trainer as one of the wagering criteria.

42. The computer-readable medium defined in claim 34 further comprising computer-readable instructions recorded thereon for providing the user with an opportunity to select a particular track surface as one of the wagering criteria.

43. The computer-readable medium defined in claim 34 further comprising computer-readable instructions recorded thereon for providing the user with an opportunity to select a particular race distance as one of the wagering criteria.

44. The computer-readable medium defined in claim 34 further comprising computer-readable instructions recorded thereon for providing the user with an opportunity to select a particular racing statistic as one of the wagering criteria.

45. The computer-readable medium defined in claim 34 further comprising computer-readable instructions recorded thereon for providing the user with an opportunity to select a particular silk color as one of the wagering criteria.

46. The computer-readable medium defined in claim 34 further comprising computer-readable instructions recorded thereon for providing the user with an opportunity to select a particular amount by which the odds for a horse change from that horse's morning line odds as one of the wagering criteria.

47. The computer-readable medium defined in claim 34 further comprising computer-readable instructions recorded thereon for providing the user with an opportunity to select whether the action taken involves the automatic placing of a wager whenever the wagering criteria are satisfied.

48. The computer-readable medium defined in claim 34 wherein the action taken involves the automatic placing of a wager whenever the wagering criteria are satisfied, the computer-readable medium further comprising machine-readable instructions recorded thereon for providing the user with an opportunity to select a wager amount and wager type associated with the wagering criteria prior to the automatic placing of the wager.

49. The computer-readable medium defined in claim 34 wherein there are multiple sets of wagering criteria established by the user each with an associated

action to be taken when that set of wagering criteria is satisfied, the computer-readable medium further comprising computer-readable instructions recorded thereon for providing the user with an opportunity to select a different wager amount and wager type for each of the multiple sets of wagering criteria.

50. The computer-readable medium defined in claim 34 further comprising computer-readable instructions recorded thereon for providing different user interfaces for selecting different types of wagering criteria.

51. (Canceled)

52. The computer-readable medium defined in claim 34 wherein the action taken involves notification of the user at a set-top box connected to a television, the computer-readable medium further comprising machine-readable instructions recorded thereon for notifying the user by displaying a partial-screen overlay message on top of a screen currently being displayed on the television.

53. The computer-readable medium defined in claim 34 wherein the action taken involves notification of the user, the machine-readable medium further comprising computer-readable instructions recorded thereon for notifying the user that the wagering criteria have been satisfied using an e-mail message.

54. The computer-readable medium defined in claim 34 wherein the action taken involves notification of the user, the computer-readable medium further comprising machine-readable instructions recorded thereon for

notifying the user that the wagering criteria have been satisfied using a wireless message.

55. The computer-readable medium defined in claim 34 wherein the action taken involves notification of the user at a set-top box connected to a television, the computer-readable medium further comprising machine-readable instructions recorded thereon for notifying the user that the wagering criteria have been satisfied by displaying a message on the television.

56. The computer-readable medium defined in claim 34 further comprising computer-readable instructions recorded thereon for providing a display screen containing a summary of which types of wagering criteria have been established.

57. The computer-readable medium defined in claim 34 further comprising computer-readable instructions recorded thereon for providing a display screen containing a summary of which types of wagering criteria have been established, wherein the summary includes information on wager amounts and wager types that the user has established for use whenever various sets of wagering criteria are satisfied.

58. The computer-readable medium defined in claim 34 further comprising computer-readable instructions recorded thereon for:

providing a display screen containing a summary of which types of wagering criteria have been established, wherein the summary includes information on

wager amounts and wager types that the user has established for use whenever various sets of wagering criteria are satisfied; and

displaying wagering criteria details for a given one of the sets of wagering criteria when the user selects that set from the summary.

59. The computer-readable medium defined in claim 34 further comprising computer-readable instructions recorded thereon for limiting automatic wagering based on monetary wagering limits.

60. The computer-readable medium defined in claim 34 further comprising computer-readable instructions recorded thereon for:

providing the user with an opportunity to select a desired monetary wagering limit; and

limiting automatic wagering based on the monetary wagering limit.

61. The computer-readable medium defined in claim 34 further comprising computer-readable instructions recorded thereon for providing the user with an opportunity to select an expiration time for automatic wagering.

62. The method of claim 1 further comprising allowing the user to place a wager on the desired wagering opportunity in response to providing the notification.

63. The method of claim 1 wherein providing a notification to the user that the desired wagering opportunity exists comprises automatically providing the notification at substantially the same time that it is determined that the desired wagering opportunity exists.

64. The method of claim 29 wherein providing a notification to the user that the horse is to run comprises automatically providing the notification at substantially the same time that it is determined that the given horse is to run in the at least one race.

65. The interactive wagering system of claim 32 wherein the user television equipment is configured to provide the notification to the user that the horse is to run at substantially the same time that it is determined that the given horse is to run in the at least one race.

66. The computer-readable medium of claim 34 further comprising computer-readable instructions recorded thereon for allowing the user to place a wager on the desired wagering opportunity in response to providing the notification.

67. The computer-readable medium of claim 34 further comprising computer-readable instructions recorded thereon for automatically providing the notification at substantially the same time that it is determined that the desired wagering opportunity exists.

(ix) Evidence Appendix

EVIDENCE APPENDIX B

COPY OF THE NON-FINAL OFFICE ACTION MAILED APRIL 13, 2009

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/516,428	03/01/2000	Kevin D. Satterfield	ODS-10	3649

75563 7590 04/13/2009

ROPES & GRAY LLP
PATENT DOCKETING 39/361
1211 AVENUE OF THE AMERICAS
NEW YORK, NY 10036-8704

EXAMINER	
ROBINSON BOYCE, AKIBA K	

ART UNIT	PAPER NUMBER
3628	

MAIL DATE	DELIVERY MODE
04/13/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/516,428	SATTERFIELD ET AL.	
	Examiner	Art Unit	
	AKIBA K. ROBINSON BOYCE	3628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 January 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17,19-50 and 52-67* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17, 19-50 and 52-67* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. In view of the **Appeal Brief** filed on **1/6/09,** PROSECUTION IS HEREBY REOPENED. **A new ground of rejection is** set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

/John W Hayes/
Supervisory Patent Examiner, Art Unit 3628

Status of Claims

2. Due to communications filed 1/6/09, the following is a non-final office action. Claims 18 and 51 are been cancelled. Claims 1-17, 19-50 and 52-67 are pending in this application and have been examined on the merits. The previous rejection has been withdrawn, and claims 1-17, 19-50 and 52-67 are rejected as follows.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-17, 18-27, 29-50, 52-60, 62-67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Graves et al. (US 5,830,067), and further in view of Brenner et al. (US 6,099,409).

As for Claim 1 :

Graves et al. disclose a method for interactive wagering comprising: allowing a user to access an interactive wagering service to select desired wagering criteria (col. 4, lines 17-42; col. 4, line 55- col. 5, line 21; col. 6, line 58 - col. 7, line 4; see Fig. 1);

receiving data about a plurality, (Col. 4, lines 55-55, fetches and sends directory and schedule of all available games to the client);

determining whether a desired wagering opportunity exists by comparing at least a portion of the received racing data to the wagering criteria, (Col. 4, line 55-Col. 5, line-18, and col. 7, lines 22-30, when client requests that he wants to purchase a chance, information accumulated into a Player Preference File, and used to customize information likely to be of value for client making wagers/deciding if results of game correlate with recorded cards/proxy machine makes decisions on how to wager based on information in Player Preference File and the ability to automatically make strategic game play decisions based on one or more of the criteria available); and

using the interactive wagering application to automatically take a particular action (automatically placing a wager) in response to determining that desired wagering opportunity exists, where in the particular action comprises at least providing a notification to the user that the desired wagering opportunity exists (see Supra and Figs. 1-4, in this case, the notification is represented by automatic wagering since when this occurs, the user knows that the wagering opportunity exists since wagering can not occur if the opportunity does not exist and also in Col. 6, line 58-Col. 7, line 4, providing free samples of the game)

Graves et al does not specifically disclose interactive wagering on races and receiving racing data about a plurality of races, however does disclose a system that enables clients to participate in a game of chance even though a client is not present at the site of the game as shown in the abstract.

However, in col. 3, lines 35-39, Brenner et al. discloses involves off-track wagering systems and related processes where racing data such as the names and post positions of the runners that are in various races and the current odds and payoffs for those races are provided by a wagering facility. Since Brenner et al. and Graves et al. are both from the same filed of endeavor, the purpose disclosed by Brenner et al. would have been well recognized in the pertinent field of Graves et al. It therefore would be obvious to combine the teachings of Graves et al and Brenner et al to disclose interactive wagering on races and receiving racing data about a plurality of races.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to disclose interactive wagering on races and receiving racing data about a plurality of races with the motivation of showing that wagering for races can be incorporated into and used in a game of chance situation.

- As for Claim 2: Graves et al. further discloses the method including using the application to provide the user with an opportunity to select which particular action is taken whenever the wagering criteria are satisfied (Id.);

- As for Claim 3: Graves et al. further discloses the method including using user television equipment, using the application on the user television equipment to determine whether the wagering criteria are satisfied (see Col. 1, lines 27-33);

As for Claims 4-13, 37-46:

Graves et al. discloses the invention as recited earlier but does not expressly disclose the invention including:

providing the user with an opportunity to select a particular racetrack - Claims 4 and 37; to select a particular horse - Claims 5 and 38; to search for a desired horse with a remote control - Claims 6 and 39; to select a particular jockey - Claims 7 and 40; to select a particular trainer- Claims 8 and 41; to select a particular track surface - Claims 9 and 42; to select a particular race distance - Claims 10 and 43; to select a particular racing statistics - Claims 11 and 44; to select a particular silk color- Claims 12 and 45; and to wager by odds for a horse change from that horse's morning line odds - Claims 13 and 46.

Brenner et al. teaches, for a interactive wagering system for horse racing games, that the system allows the user to select a particular racetrack, a particular horse; to search for a desired horse with a remote control; to select a particular jockey, a particular trainer, a particular track surface, a particular race distance, a particular racing statistics, and a particular silk color; and to wager by odds for a horse change from that horse's morning line odds (see Figs. 3, 5, 8-28, 36-50 and the descriptions thereof).

Since Brenner et al. and Graves et al. are both from the same field of endeavor, the purpose disclosed by Brenner et al. would have been well recognized in the pertinent field of Graves et al.

Accordingly, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the system of Graves et al. to play the horse

racetrack wagering (to select a particular racetrack, a particular...), as taught by Brenner et al., for the purpose of providing the user with the interactive wagering systems and related processes for off-track horse racing wagering in which a user terminal provides racing odds, pools, handicapping information, and other racing data.

- As for Claim 14: Graves et al. further discloses the method including providing the user with an opportunity to select whether the action taken involves the automatic placing of a wager (col. 4, lines 17-42; col. 4, line 55 - col. 5, line 21; col. 6, line 58 - col. 7, line 4);

- As for Claim 15: Graves et al. further discloses the method wherein the action taken involves the automatic placing of a wager, the method further including providing the user with an opportunity to select a wager amount and amount type (Id.);

- As for Claim 16: Graves et al. further discloses the method wherein there are multiple sets of wagering criteria established by the user, each with an associated action to be taken (col. 2, lines 39-43, playing multiple games), the method further including providing the user with an opportunity to select a different wager amount and wager type for each of the multiple sets of wagering criteria (col. 2, line 63 - col. 3, line 7);

- As for Claim 17: Graves et al. further discloses the method including providing different

user interfaces with the wagering application for selecting different types of wagering criteria (Id.);

As for Claims 19, 21-25:

The modified method of Graves et al. further discloses the invention including:

notifying the user by displaying a partial-screen overlay message on top of a screen (col. 2, lines 43-46 of Brenner et al.) - Claim 19;

notifying the user via a wireless message (col. 7, lines 35-38 of Brenner et al.) - Claim 21;

notifying the user that the wagering criteria have been satisfied by displaying a message on the TV (col. 1, lines 13-15 of Brenner et al.) - Claim 22;

providing a display screen containing a summary of which types of wagering criteria have been established (col. 3, lines 15-18 of Brenner et al.) - Claim 23;

wherein the summary includes information on wager amounts and wager types that the user has established for use whenever various sets of wagering criteria are satisfied (col. 2, lines 47-53 of Brenner et al.) - Claim 24; and

wherein the summary includes information on wager amounts and wager types that the user has established for use whenever various sets of wagering criteria are satisfied (col. 2, lines 47-53 of Brenner et al.) - Claim 25.

- As for Claim 20: Graves et al. further discloses the method including notifying the user that the wagering criteria have been satisfied using an e-mail (col. 6, lines 22- 41);

- As for Claim 26: Graves et al. further discloses the method including using the wagering application to limit automatic wagering based on monetary wagering limits (see Fig. 3 and the description thereof);

- As for Claim 27: Graves et al. further discloses the method including providing the user with an opportunity to select a desired monetary wagering limit; and using the wagering application to limit automatic wagering based on the monetary wagering limit (Id.);

As for Claim 29:

Graves et al. discloses a method for interactive wagering comprising:

allowing a user to select desired wagering criteria (col. 4, lines 17-42; col. 4, line 55 - col. 5, line 21 ; col. 6, line 58 - col. 7, line 4; see Fig. 1);

determining whether a desired wagering opportunity exists; and

automatically taking a particular action/ automatically providing a notification to the user that the horse is to run in the at least one race and placing a wager for the given horse in response to determining that the given horse is to run in the at least one race (automatically placing a wager) whenever the wagering criteria are satisfied (see Supra and Figs. 1-4, in this case, the notification is represented by automatic wagering since when this occurs, the user knows that the wagering opportunity exists since wagering

can not occur if the opportunity does not exist and also in Col. 6, line 58-Col. 7, line 4, providing free samples of the game).

receiving racing data about a plurality of races, (Col. 4, lines 55-55, fetches and sends directory and schedule of all available games to the client);.

However, Graves et al. does not expressly disclose the invention that allows the user to select a given horse, or making a determination if the given horse is to run in at least one race by comparing at least a portion of the receive racing data to an identification of the given horse.

Brenner et al. teaches, for a interactive wagering system for horse racing games, that the system allows the user to select a particular racetrack, a particular horse; to search for a desired horse with a remote control; to select a particular jockey, a particular trainer, a particular track surface, a particular race distance, a particular racing statistics, and a particular silk color; and to wager by odds for a horse change from that horse's morning line odds (see Figs. 3,, 5, 8-28, 36-50 and the descriptions thereof).
Since Brenner et al. and Graves et al. are both from the same filed of endeavor, the purpose disclosed by Brenner et al. would have been well recognized in the pertinent field of Graves et al.
Accordingly, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the system of Graves et al. to play the horse racetrack wagering (to select a particular racetrack, a particular...), as taught by Brenner et al., for the purpose of providing the user with the interactive wagering systems and

related processes for off-track horse racing wagering in which a user terminal provides racing odds, pools, handicapping information, and other racing data.

- As for Claim 30: the modified method of Graves et al. further discloses the invention including providing the user with an opportunity to select the amount of the wager and the wager type (as taught by both Graves et al. and Brenner et al., see Supra).

- As for Claim 31: the modified method of Graves et al. further discloses the invention including providing the user with an opportunity to select multiple horses using the wagering application; and automatically placing a wagers for each horse when it is determined that the horse is to run in a particular race (see Supra Claim 16 for the Graves et al.'s multiple wagering and Brenner et al. for selecting the particular horse in the particular race).

- As for Claim 32:

Graves et al. discloses an interactive wagering system, comprising:

user equipment configured to:

select desired wagering criteria (col. 4, lines 17-42; col. 4, line 55 - col. 5, line 21 ; col. 6, line 58 - col. 7, line 4; see Fig. 1);

determine whether a desired wagering opportunity exists; and

automatically take a particular action (automatically placing a wager) whenever the wagering criteria are satisfied/automatically provide a notification to the user that the horse

is to run in the at least one race and place a wager for the given horse in response to determining that the given horse is to run in the at least one race, (see Supra and Figs. 1-4, in this case, the notification is represented by automatic wagering since when this occurs, the user knows that the wagering opportunity exists since wagering can not occur if the opportunity does not exist and also in Col. 6, line 58-Col. 7, line 4, providing free samples of the game).

receive racing data about a plurality of races, (Col. 4, lines 55-55, fetches and sends directory and schedule of all available games to the client);

However, Graves et al. does not expressly disclose the invention that allows the user to select a given horse and place a wager for the horse in a particular race or determining if the given horse is to run in at least one race by comparing at least a portion of the received racing data to an identification of the given horse.

Brenner et al. teaches, for a interactive wagering system for horse racing games, that the system allows the user to select a particular racetrack, a particular horse; to search for a desired horse with a remote control; to select a particular jockey, a particular trainer, a particular track surface, a particular race distance, a particular racing statistics, and a particular silk color; and to wager by odds for a horse change from that horse's morning line odds (see Figs. 3,, 5, 8-28, 36-50 and the descriptions thereof).

Since Brenner et al. and Graves et al. are both from the same filed of endeavor, the purpose disclosed by Brenner et al. would have been well recognized in the pertinent field of Graves et al..

Accordingly, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the system of Graves et al. to play the horse

racetrack wagering (to select a particular racetrack, a particular...), as taught by Brenner et al., for the purpose of providing the user with the interactive wagering systems and related processes for off-track horse racing wagering in which a user terminal provides racing odds, pools, handicapping information, and other racing data.

As for Claim 33: the modified system of Graves et al. further discloses the system including user computer equipment separate from the user television equipment, wherein the wagering application notifies the user at the user computer equipment by e-mail (see Supra pertinent Claims).

As for Claim 34:

Graves et al. disclose a computer-readable medium comprising instructions for: allowing a user to select desired wagering criteria (col. 4, lines 17-42; col. 4, line 55 - col. 5, line 21; col. 6, line 58 - col. 7, line 4; see Fig. 1);

receiving racing data about a plurality of races, (Col. 4, lines 55-55, fetches and sends directory and schedule of all available games to the client);

determining whether a desired wagering opportunity exists by comparing at least a portion of the received racing data to the wagering criteria, (Col. 4, line 55-Col. 5, line-18, when client requests that he wants to purchase a chance, information accumulated into a Player Preference File, and used to customize information likely to be of value for

client making wagers/deciding if results of game correlate with recorded cards/proxy machine makes decisions on how to wager based on information in Player Preference File); and

automatically taking a particular action (automatically placing a wager) in response to determining that a desired wagering opportunity exist, wherein the particular action comprises at least providing a notification to the user that the desired wagering opportunity exists, (see Supra and Figs. 1-4, in this case, the notification is represented by automatic wagering since when this occurs, the user knows that the wagering opportunity exists since wagering can not occur if the opportunity does not exist and also in Col. 6, line 58-Col. 7, line 4, providing free samples of the game).

- As for Claim 35: Graves et al. further discloses the medium including using the application to provide the user with an opportunity to select which particular action is taken whenever the wagering criteria are satisfied (Id.);

- As for Claim 36: Graves et al. further discloses the medium wherein the medium is used with user television equipment (see Supra);

- As for Claim 47: Graves et al. further discloses the medium including providing the user with an opportunity to select whether the action taken involves the automatic

placing of a wager (col. 4, lines 17-42; col. 4, line 55 - col. 5, line 21; col. 6, line 58 - col. 7, line 4);

- As for Claim 48: Graves et al. further discloses the medium, wherein the action taken involves the automatic placing of a wager, the medium further including providing the user with an opportunity to select a wager amount and amount type (Id.);

- As for Claim 49: Graves et al. further discloses the medium wherein there are multiple sets of wagering criteria established by the user, each with an associated action to be taken (col. 2, lines 39-43, playing multiple games), the medium further including providing the user with an opportunity to select a different wager amount and wager type for each of the multiple sets of wagering criteria (col. 2, line 63 - col. 3, line 7);

- As for Claim 50: Graves et al. further discloses the medium including providing different user interfaces with the wagering application for selecting different types of wagering criteria (Id.);

- As for Claims 52, 54-58:

The modified medium of Graves et al. further discloses the invention including:
notifying the user by displaying a partial-screen overlay message on top of a screen (col. 2, lines 43-46 of Brenner et al.) - Claim 52;
notifying the user via a wireless message (col. 7, lines 35-38 of Brenner et al.) - Claim

54;

notifying the user that the wagering criteria have been satisfied by displaying a message on the TV (col. 1, lines 13-15 of Brenner et al.) - Claim 55;

providing a display screen containing a summary of which types of wagering criteria have been established (col. 3, lines 15-18 of Brenner et al.) - Claim 56;

wherein the summary includes information on wager amounts and wager types that the user has established for use whenever various sets of wagering criteria are satisfied (col. 2, lines 47-53 of Brenner et al.) - Claim 57; and

wherein the summary includes information on wager amounts and wager types that the user has established for use whenever various sets of wagering criteria are satisfied (col. 2, lines 47-53 of Brenner et al.) - Claim 58.

- As for Claim 53: Graves et al. further discloses the medium including notifying the user that the wagering criteria have been satisfied using an e-mail (col. 6, lines 22- 41);

- As for Claim 59: Graves et al. further discloses the medium including using the wagering application to limit automatic wagering based on monetary wagering limits (see Fig. 3 and the description thereof); and

- As for Claim 60: Graves et al. further discloses the medium including providing the user with an opportunity to select a desired monetary wagering limit; and using the

wagering application to limit automatic wagering based on the monetary wagering limit (Id.).

-As for claims 62, 66, Graves discloses:

allowing the user to place a wager on the desired wagering opportunity in response to providing the notification, (Col. 6, line 58-Col. 7, line 4, after providing free samples of the game, determining if client wishes to play a game that requires dynamic responses).

-As for claims 63, 67, Graves discloses:

wherein providing a notification to the user that the desired wagering opportunity exists comprises automatically providing the notification at substantially the same time that it is determined that the desired wagering opportunity exists, (See Supra, Fig. 1, and Col. 6, line 58-Col. 7, line 4).

-As for claim 64, the modified Graves discloses: wherein providing a notification to the user that the horse is to run comprises automatically providing the notification at substantially the same time that it is determined that the given horse is to run in the at least one race, (See Supra, Fig. 1, and Col. 6, line 58-Col. 7, line 4).

-As for claim 64, the modified Graves discloses: wherein the user television equipment is configured to provide the notification to the user that the horse is to run at substantially the same time that it is determined that the given horse is to run in the at least one race, (col. 3, lines 41-42, television screen used to display receipt).

5. Claims 28 and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Graves et al., and further in view of Brenner et al. (US 6,099,409), as applied to Claims 1 and 34 above, and further in view of Hedges et al. (US 4,467,424).

As per claims 28 and 61, Graves et al. discloses the invention as cited earlier, but does not specifically disclose the invention comprising:
using the wagering application to provide the user with an opportunity to select an expiration time for automatic wagering.
Hedges et al. is cited to show that there is an expiration time to enter a bet.
It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the invention of Graves et al. such that the user can select an expiration time for automatic wagering, as taught by Hedges et al., for the purpose of reminding the user of the remaining time and providing the user with the opportunity to change or cancel the wagering.

Response to Arguments

6. Applicant's arguments filed 11/18/08 have been fully considered but they are not persuasive.

Applicant argues that prior art does not disclose determining whether a desired wagering opportunity exists by comparing received racing data to desired wagering criteria or providing a notification to the user in response to determining that a desired a wagering opportunity exists or a selected horse is about to run in a race. Applicant argues that that although Graves' proxy playing machine may make some strategic decisions on behalf of the player while the machine is playing a game, and that various summary and reporting notifications may be sent to the player in Graves, according to applicant, these notifications only include replicas of the game cards actually in play or the results of the game. However, examiner maintains her position. As discussed previously, and above in the rejection, col. 4, lines 17-42; col. 4, line 55- col. 5, line 21; col. 6, line 58 - col. 7, line 30 of Graves describes that when a client requests that he wants to purchase a chance, information is accumulated into a Player Preference File, and used to customize information likely to be of value for client making wagers. These passages also shows deciding if results of game correlate with recorded cards, and that the proxy machine makes decisions on how to wager based on information in Player Preference File, and automatic wagering takes place, and also the ability to automatically make strategic game play decisions based on one or more of the criteria available. Since the proxy machine makes decisions on how to wager based on

information in Player Preference File in Graves, and also the ability to automatically make strategic game play decisions based on one or more of the criteria available, Graves therefore suggests determining whether a desired wagering opportunity exists by comparing received racing data to desired wagering criteria. In addition, the notification is represented by automatic wagering since when this occurs, the user knows that the wagering opportunity exists since wagering is actually being implemented. Furthermore, as shown in Col. 6, line 58-Col. 7, line 4, free samples of the game are provided, which also represents notification since the free samples informs a user that wagering opportunities are available for those particular games.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Akiba K Robinson-Boyce whose telephone number is 571-272-6734. The examiner can normally be reached on Monday-Friday 9am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Hayes can be reached on 571-272-6708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the •Patent Application Information Retrieval (PAIR) system, Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

A. R. B.
April 13, 2009

/Akiba K Robinson-Boyce/
Primary Examiner, Art Unit 3628

EVIDENCE APPENDIX C

COPY OF THE ADVISORY ACTION MAILED AUGUST 11, 2008

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/516,428	03/01/2000	Kevin D. Satterfield	ODS-10	3649

75563 7590 08/11/2008

ROPES & GRAY LLP
PATENT DOCKETING 39/361
1211 AVENUE OF THE AMERICAS
NEW YORK, NY 10036-8704

EXAMINER	
ROBINSON BOYCE, AKIBA K	

ART UNIT	PAPER NUMBER
3628	

MAIL DATE	DELIVERY MODE
08/11/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Advisory Action Before the Filing of an Appeal Brief	Application No.	Applicant(s)	
	09/516,428	SATTERFIELD ET AL.	
	Examiner	Art Unit	
	AKIBA K. ROBINSON BOYCE	3628	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 29 July 2008 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:
   a) ☐ The period for reply expires _____months from the mailing date of the final rejection.
   b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
   Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
   (a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
   (b) ☐ They raise the issue of new matter (see NOTE below);
   (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.
   NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).
4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☒ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
   The status of the claim(s) is (or will be) as follows:
   Claim(s) allowed: _____.
   Claim(s) objected to: _____.
   Claim(s) rejected: *1-17,19-50 and 52-67*.
   Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Continuation Sheet.
12. ☐ Note the attached Information *Disclosure Statement*(s). (PTO/SB/08) Paper No(s). _____
13. ☐ Other: _____.

/Akiba K Robinson-Boyce/
Primary Examiner, Art Unit 3628

Continuation of 11. does NOT place the application in condition for allowance because: Applicant argues that although Graves' proxy playing machine may make some strategic decisions on behalf of the player while the machine is playing a game, the player has to manually seek out an opportunity to play the game. Applicant argues that prior art fails to automatically provide a notification to the user in response to determining that a desired a wagering opportunity exists or a selected horse is about to run in a race. However, as discussed in the rejection, col. 4, lines 17-42; col. 4, line 55- col. 5, line 21; col. 6, line 58 - col. 7, line 4 describes that when a client requests that he wants to purchase a chance, information is accumulated into a Player Preference File, and used to customize information likely to be of value for client making wagers. These passages also shows deciding if results of game correlate with recorded cards, and that the proxy machine makes decisions on how to wager based on information in Player Preference File, and automatic wagering takes place. Most importantly, in this case, the notification is represented by automatic wagering since when this occurs, the user knows that the wagering opportunity exists since wagering can not occur if the opportunity does not exist. Furthermore, as shown in Col. 6, line 58-Col. 7, line 4, free samples of the game are provided, which also represents notification since the free samples informs a user that wagering opportunities are available for those particular games. .

EVIDENCE APPENDIX D

COPY OF GRAVES ET AL. U.S. PATENT NO. 5,830,067

US005830067A

United States Patent [19]

Graves et al.

[11] Patent Number: 5,830,067

[45] Date of Patent: Nov. 3, 1998

[54] **PROXY PLAYER MACHINE**

[75] Inventors: **Gordon T. Graves**, Austin, Tex.; **Gary W. Watkins**, Tulsa, Okla.

[73] Assignee: **Multimedia Games, Inc.**, Tulsa, Okla.

[21] Appl. No.: **721,883**

[22] Filed: **Sep. 27, 1996**

Related U.S. Application Data

[60] Provisional application No. 60/004,596 Sep. 27, 1995.

[51] **Int. Cl.** [6] **A63F 9/22**

[52] **U.S. Cl.** **463/40**; 463/19; 273/269

[58] **Field of Search** ..... 463/17, 40, 41, 463/42, 19; 273/143 R, 269

[56] **References Cited**

U.S. PATENT DOCUMENTS

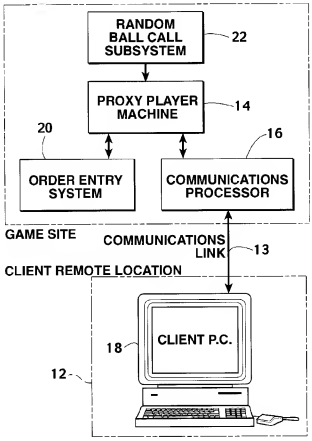
4,455,025	6/1984	Itkis	273/237
4,634,462	1/1987	Fish et al.	65/29
4,856,787	8/1989	Itkis	273/237
4,909,516	3/1990	Kolinsky	273/237
5,297,802	3/1994	Pocock et al.	273/439
5,324,035	6/1994	Morris et al.	273/138
5,333,868	8/1994	Goldfarb	273/138
5,351,970	10/1994	Fioretti	273/439
5,432,932	7/1995	Chen et al.	395/650

Primary Examiner—Michael O'Neill
Attorney, Agent, or Firm—Head, Johnson & Kachigian

[57] **ABSTRACT**

An electronic or mechanical device that acts as an automated agent enabling clients to participate in a game of chance even though a client is not present at the site of the game. The device is located at a site where a game of chance takes place. The device acts as a proxy player by purchasing wagering chances, playing those chances, and reporting the results of those games of chance to clients who are not present at the site where the game takes place. The proxy player may learn a client's preferences and play a game without further input from the client while making gaming decisions according to those preferences. The device enables individuals to participate in games of chance, such as bingo or other types of games, even though they may be outside of the jurisdiction where such games are permitted.

15 Claims, 4 Drawing Sheets



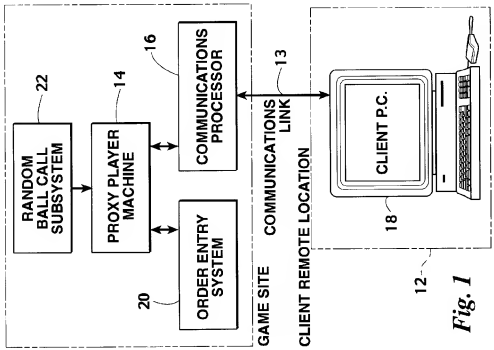

GAME SITE
RANDOM BALL CALL SUBSYSTEM
22
PROXY PLAYER MACHINE
14
COMMUNICATIONS PROCESSOR
16
ORDER ENTRY SYSTEM
20
COMMUNICATIONS LINK
13
CLIENT REMOTE LOCATION
CLIENT P.C.
18
12

Fig. 1

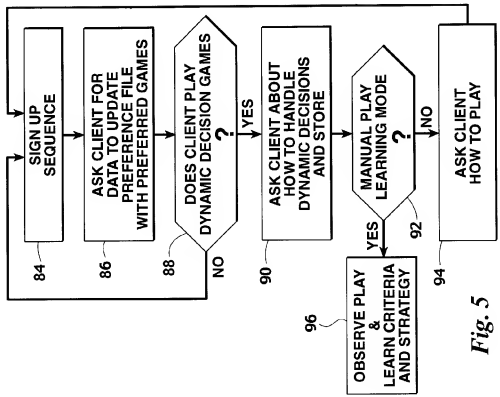

SIGN UP SEQUENCE
84
ASK CLIENT FOR DATA TO UPDATE PREFERENCE FILE WITH PREFERRED GAMES
86
DOES CLIENT PLAY DYNAMIC DECISION GAMES ?
88
NO
YES
ASK CLIENT ABOUT HOW TO HANDLE DYNAMIC DECISIONS AND STORE
90
MANUAL PLAY LEARNING MODE ?
92
YES
NO
OBSERVE PLAY & LEARN CRITERIA AND STRATEGY
96
ASK CLIENT HOW TO PLAY
94

Fig. 5

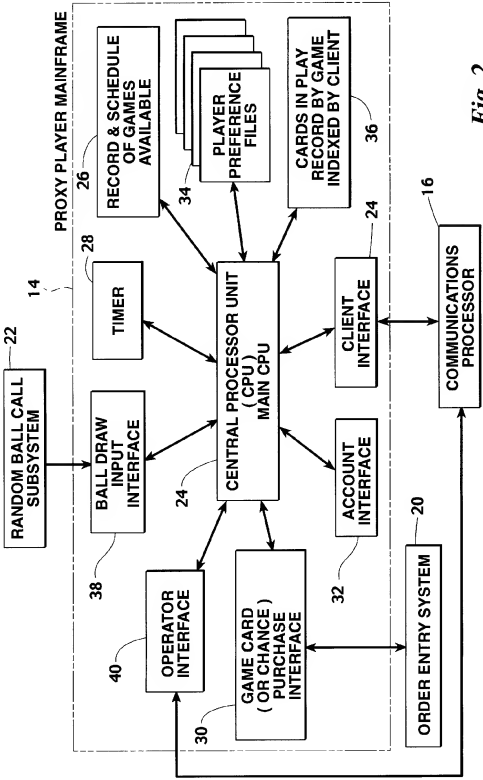

PROXY PLAYER MAINFRAME
14
RANDOM BALL CALL SUBSYSTEM
22
BALL DRAW INPUT INTERFACE
38
TIMER
28
CENTRAL PROCESSOR UNIT (CPU) MAIN CPU
24
RECORD & SCHEDULE OF GAMES AVAILABLE
26
PLAYER PREFERENCE FILES
34
CARDS IN PLAY RECORD BY GAME INDEXED BY CLIENT
36
CLIENT INTERFACE
24
ACCOUNT INTERFACE
32
OPERATOR INTERFACE
40
GAME CARD (OR CHANCE) PURCHASE INTERFACE
30
ORDER ENTRY SYSTEM
20
COMMUNICATIONS PROCESSOR
16

Fig. 2

Fig. 3

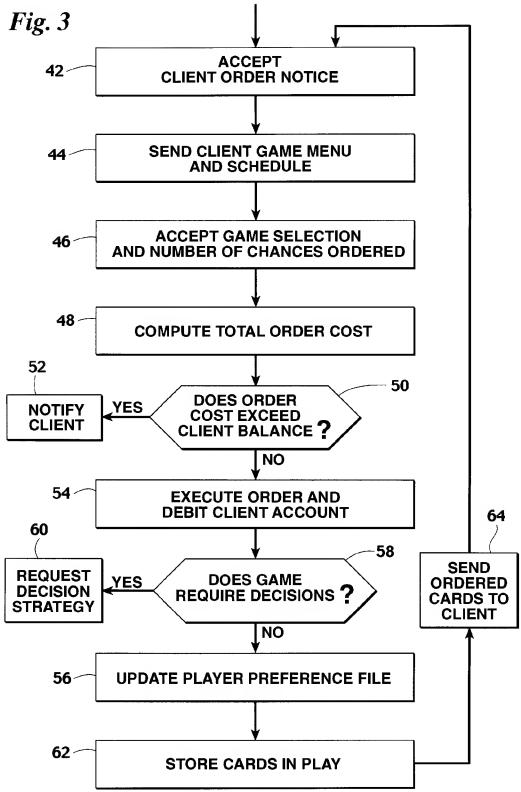
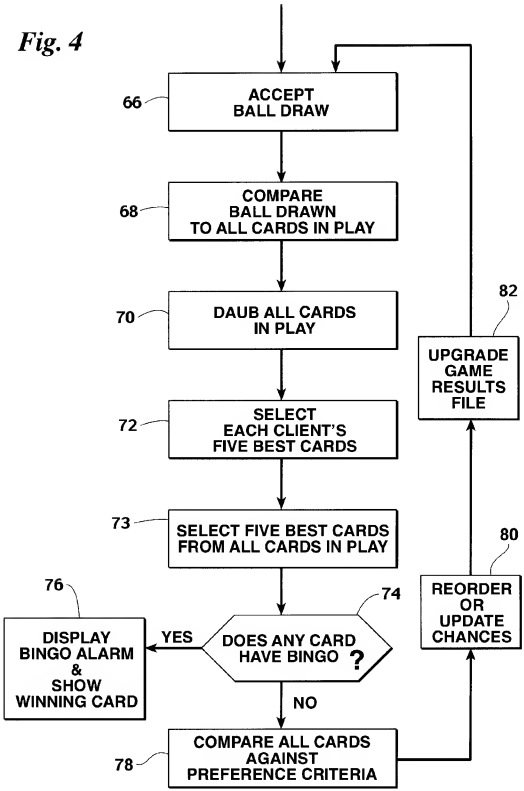

42
ACCEPT CLIENT ORDER NOTICE
44
SEND CLIENT GAME MENU AND SCHEDULE
46
ACCEPT GAME SELECTION AND NUMBER OF CHANCES ORDERED
48
COMPUTE TOTAL ORDER COST
52
NOTIFY CLIENT
YES
DOES ORDER COST EXCEED CLIENT BALANCE ?
50
NO
54
EXECUTE ORDER AND DEBIT CLIENT ACCOUNT
60
REQUEST DECISION STRATEGY
YES
DOES GAME REQUIRE DECISIONS ?
58
NO
56
UPDATE PLAYER PREFERENCE FILE
62
STORE CARDS IN PLAY
64
SEND ORDERED CARDS TO CLIENT

Fig. 4


ACCEPT BALL DRAW
66
COMPARE BALL DRAWN TO ALL CARDS IN PLAY
68
DAUB ALL CARDS IN PLAY
70
SELECT EACH CLIENT'S FIVE BEST CARDS
72
SELECT FIVE BEST CARDS FROM ALL CARDS IN PLAY
73
DOES ANY CARD HAVE BINGO ?
74
YES
DISPLAY BINGO ALARM & SHOW WINNING CARD
76
NO
COMPARE ALL CARDS AGAINST PREFERENCE CRITERIA
78
REORDER OR UPDATE CHANCES
80
UPGRADE GAME RESULTS FILE
82

PROXY PLAYER MACHINE

CROSS NOTATION

This application claims the benefit of U.S. provisional application No. 60/004,596 filed Sep. 27, 1995.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to an electronic or mechanical device that acts as an automated agent enabling clients to participate in a game of chance even though the clients are not present at the site of the game. In more particular, the invention relates to an electronic or mechanical device located at a site where a game of chance takes place. The device acts as an automated agent by purchasing wagering chances, playing those chances, and reporting the results of those games of chance to clients who are not present at the site where the game takes place.

2. Background

In many jurisdictions, regulations require that all players participating in bingo games and other types of games that involve consideration, chance, and prizes, be present at the site or bingo hall where the game takes place. Oftentimes players are required to announce that they have a winning card or chance in order to win.

It is foreseeable that gaming will be offered prevalently to people at home over the Information Superhighway, through such mediums as the Internet, World Wide Web, America On-Line, and custom gaming related servers, such as American Gaming Network, interactive cable TV, Video on Demand (VOD), telephone or some other yet-to-be discovered mediums. Once gaming is offered through such mediums, it will become even more important commercially to use proxy players that are capable of purchasing and playing games of chance at a gaming site (or within some jurisdiction where it is legal to play) on behalf of people located in jurisdictions where those types of games cannot be legally conducted.

For example, the National Indian Gaming Commission has ruled that proxy play is legal when practiced at an Indian bingo hall. In other words, proxy play can be used for bingo games run on a reservation without violating an important requirement of the Indian Gaming Regulatory Act—namely, that in order for a game to be classified as Indian bingo, the entire game must be conducted on Indian land. This rule is important because the Indian Gaming Regulatory Act exempts the conductors of Indian bingo games that are conducted on a reservation from all of the federal gambling laws regarding the use of telephones, computers, the mail, television, etc., across state lines. Further, recent Federal Court cases have ruled that a state cannot prevent people from assisting citizens in that state in participating by proxy in a gaming activity that is legal in another jurisdiction regardless of whether the gaming activity is legal in that state.

Various types of electronic gaming systems are known in the art. Examples of electronic gaming systems include U.S. Pat. No. 5,333,868 to Goldfarb for a "Method of Playing a Game of Chance at Locations Remote from the Game Site" and U.S. Pat. No. 5,351,970 to Fioretti for "Methods and Apparatus for Playing Bingo Over a Wide Geographic Area". The Goldfarb and Fioretti patents use a system-based station rather than a proxy player, as used in applicant's "Proxy Player Machine". Other patents of interest include U.S. Pat. No. 4,856,787 to Itkis for a "Concurrent Game

Network", U.S. Pat. No. 5,297,802 to Pocock et al for a "Televised Bingo Game System", U.S. Pat. No. 5,324,035 to Morris et al for a "Video Gaming System with Fixed Pool of Winning Plays and Global Pool Access", and U.S. Pat. No. 5,432,932 to Chen et al for a "System and Method for Dynamically Controlling Remote Processes from a Performance Monitor". However, none of the previous patents for electronic gaming systems teach a system that allows and assists a remote client in communicating with a proxy player at a gaming site, thereby allowing the remote client to instruct the proxy player regarding decisions relating to play of the game, and allowing the proxy player to play a game for the remote client using the remote client's gaming preferences.

SUMMARY OF THE INVENTION

Consequently, there is a need for an efficient way to empower a proxy player at a gaming hall so that he or she can economically and practically play a game on behalf of numerous remote clients or home personal computer users located throughout the country. Therefore, a computer user at home need not be playing but instead merely observing the results of the game which the automated and empowered proxy player is playing on his or her behalf at the gaming hall. In order to fully comply with the proxy play restraint, and still offer the on-line home computer user or client the full entertainment value of a fast moving, challenging game, the empowered proxy player needs to be able to make relatively sophisticated decisions and perform relatively complicated tasks.

In order to so empower the proxy player, an automated Proxy Player Machine is provided, which, in its preferred embodiment as described herein, uses off-the shelf computer equipment, software, and peripherals along with custom applications software.

In the past, people unable to attend a bingo hall have given money to bingo hall attendees to buy bingo cards and play the cards on their behalf. Recently, many manufacturers have developed microcomputer-based electronic player stations (EPS's) that are capable of automatically playing hundreds or thousands of cards on behalf of a single operator. Consequently, an EPS operator can play cards on behalf of many others who are not present. In this case, the EPS operator acts as an agent or a proxy player on behalf of those remote clients who are not present. Applicant's Proxy Player Machine is a proxy player computer-communications system that sends an electronic signal from the EPS proxy player to the remote client and either prints or displays for the remote client a receipt that contains a replica of the card or cards that are being played by the EPS proxy operator on behalf of the remote client before a game such as bingo begins. The results of a bingo game, in terms of the balls drawn, are also transmitted by the Machine and displayed to the remote client. Thus, the Machine provides the remote client with the necessary information to be assured that he or she is not being cheated by the proxy player (by assuring that the proxy player will not keep all the winning cards for himself).

In addition, the system of which the Machine is a part maintains a record (the debit record) of the amount of money that the remote client has given the proxy player to use to purchase cards on his behalf. The Machine allows and assists the remote client in communicating with the proxy player at the bingo hall in order to instruct the proxy player in playing more sophisticated games or sessions of games. For example, the Machine may prompt the remote client for

instructions about such things as the amount that should be spent to purchase cards for a particular game or session, or the amount of money to spend in a variable cost game where the cost of play varies as a function of the number of balls drawn or the total amount wagered. The Machine can also allow the remote client to make these types of decisions either at the hall or remotely for a period of time. The Machine can automatically observe client decisions made during this time, thereby learning the remote client's preferences and strategies. The Machine can then explain to the remote client what it has learned and ask the remote client if it is ready for the system to take over and automatically make these decisions.

The system of which the Machine is a part automatically adjusts the balance in the remote client's debit record as the proxy player accepts the instructions to purchase more cards and automatically notifies the remote client when the money in the debit account must be replenished. A credit card, wire transfer, or other means can be used to replenish the account.

Numbers displayed on the face of the replica of the proxy card receipt can be marked or activated in some manner by the remote client or marked or activated automatically in a way to show which balls have been drawn so that the remote client will know whether the cards purchased on his behalf have won or not.

Another embodiment of the system allows the use of a proxy card receipt wherein the marks or activations on the receipt may be removed after each game or session of games. The receipt may, therefore, be repeatedly re-used. Consequently, the remote client can instruct the proxy player to purchase a card or cards having the identical play face or faces as cards purchased and played on behalf of the remote client in previous games. This embodiment of the system has the capability of reserving a card or group of cards to be purchased and played on behalf of a remote client so that these re-usable receipts can be used again and again thereby eliminating the need to transmit and print or display new receipts for every game.

The re-usable receipt will be easy to obtain at home once two-way interactive broad band cable and telephone networks are in place. A television screen can be used as the medium for displaying the receipt. The placement of marks or activations of the cards on the screen can be automatically controlled by the set-top box. Other approaches include using a receipt printed on an erasable surface material or a marker or "dauber" with erasable ink. Finally, another approach is to use a "magic tablet" -type toy scheme with an adhesive carbon surface covered with a clear plastic that will adhere to the carbon when point pressure is applied, allowing a carbon mark to show through. Another approach is to program a personal digital assistant (PDA), such as the Apple Newtons™, or one of the more advanced units coming out.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** shows a general diagram of a gaming system using an automated Proxy Player Machine.

FIG. **2** shows a block diagram of the Proxy Player Machine.

FIG. **3** shows a flow chart of the chance order cycle.

FIG. **4** shows a flow chart of the game play cycle.

FIG. **5** shows a flow chart of the preference set-up cycle.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The purpose of the automated Proxy Player Machine invention is to automate the process of having an agent play a game of chance on behalf of a person who is not present at the location or in the jurisdiction where the game is conducted ("game site" **10**).

Referring now to FIG. **1**, a functional block diagram showing how automated Proxy Player Machine **14** functions is shown. Proxy Player Machine **14** is installed at game site **10** where the game is conducted. Proxy Player Machine **14** interfaces through communications processor **16**, which is located at game site **10**. Communications Processor **16** communicates with remote client location **12** by means of communications link **13**. Communications link **13** may be a telephone, radio link, or some other communications means commonly known in the art. Interface device **18** can be a telephone, an interactive cable TV network, or a variety of other conduits. In the preferred embodiment, interface device **18** is a remote personal computer.

In practice, the remote client requests that the proxy player, using Proxy Player Machine **14**, purchase a chance and play on his behalf. Proxy Player Machine **14** then communicates with Order Entry System **20** located at Game Site **10** and requests the type and number of chances to be purchased on behalf of the remote client. Upon completion of the order, Proxy Player Machine **14** sends a report to the remote client along with a receipt containing a record of the numbers or symbols (such as a bingo face) and identification number of the purchased chances. When the game for which the chances have been purchased commences, Proxy Player Machine **14** receives the information regarding the random process for that game. This information could be entered manually through a keyboard or other means by the agent who is operating Proxy Player Machine **14**, or as shown in this case, Proxy Player Machine **14** can receive information from Ball Call Subsystem **22**. Proxy Player Machine **14** compares and correlates numbers or symbols imprinted on balls drawn during a game at game site **10** with numbers or symbols of the purchased chances to determine whether the sequence, order, or pattern of correlation needed to win a prize exists in accordance with the rules of the game. Proxy Player Machine **14** notifies the operator agent when a winning chance is detected and the operator agent takes the appropriate action to collect the associated prize for the remote client.

Operation of Proxy Player Machine **14** is described in more detail in FIG. **2**. Main Central Processor Unit ("CPU") **24** interfaces with Client Interface Unit **25**, which can be in many forms. In the preferred embodiment, Client Interface Unit **25** is an EtherNet local area network board connected to a serial port. Client Interface Unit **25** communicates with Communications Processor **16** which is also shown in FIG. **1**. Game Card Purchase Interface or Chance Purchase Interface **30** communicates with Order Entry System **20**. Ball Draw Input Interface **38** interfaces with Random Ball Call Subsystem **22**. Operator Interface **40** communicates with Communications Processor **16**.

When a client requests that he wants to purchase a chance, CPU **24** fetches the directory, brief description, and the schedule of all available games from Record of Games **26**, and sends the information to the client. Once the player selects a game, a record of what he or she has purchased is stored in Player Preference File **34**. After a record of a client's past activity has been accumulated, CPU **24** can use this information to customize information likely to be of value to that particular client. When a client first starts using the proxy service, CPU **24** will also query the client as to his preference of how he wants to make any necessary strategic decisions regarding such things as the amount wagered per chance, when to make changes in the number or character of

chances in play, etc., as a function of such variables as number of players, size of the prizes, number of correlations accumulated on each chance, etc. This information will be stored in Player Preference File **34**. CPU **24** will handle this process for a multitude of different clients simultaneously. Once timer **28** notifies CPU **24** that the time before the start of a particular game is less than a certain preset time threshold, CPU **24** notifies the clients that the game is closed and a record of all cards or chances that have been sold is stored in Record of Cards Sold **36**. Record of Cards Sold is indexed by a client identification number or a pack number. When the game starts, CPU **24** accepts the ball drawing results from ball draw input interface **38** and correlates the results with the recorded cards in Record of Cards **36**. If it is possible or necessary for more cards to be purchased as the game progresses or if a decision must be made to spend more per card as the game progresses to stay in the game, Proxy Player Machine **14** will automatically make those decisions based on data in each players preference file. When a winning card is detected by CPU **24**, display data is sent to Operator Interface **40**.

The four major processes performed by Proxy Player Machine **14** after accepting purchase and preference instructions from the client are (a) ordering chances, (b) playing the game, (c) reporting the results of the game to the clients, and (d) setting up preference information for each client A flow diagram of the chance ordering cycle is shown in FIG. **3**. Proxy Player Machine **14** accepts a notification that the client wants to make an order request as indicated in step **42**, which activates Proxy Player Machine **14** to send the client the Game Menu and Schedule as indicated in step **44**. Proxy Player Machine **14** then accepts the client's order as indicated in step **46** and computes the total cost of all cards ordered as indicated in step **48**. Proxy Player Machine **14** then determines if the client's debit account is adequate to pay for the order as shown in step **50**. If the client's debit account is not adequate, the client is notified in step **52** that he or she must replenish their debit account. If sufficient funds are available, the order is executed and the clients account is debited as indicated in step **54**. A determination is then made in step **58** as to whether the game requires a decision while the game is in progress. If so, Proxy Player Machine **14** requests a decision strategy from the client, as shown in step **60**. The player's preference file is then updated as indicated in step **56**, and the cards or chances ordered are stored for play as indicated in step **62**. A receipt containing a replica of the cards in play is then sent to the client for his records as indicated in step **64**.

In FIG. **4**, a typical Game Play cycle for a bingo game is shown. Proxy Player Machine **14** accepts a signal indicating the number or symbol imprinted on a ball that is drawn, as indicated in step **66**, and compares the number or symbol of the drawn ball to the numbers or symbols on all cards or chances in play as indicated in step **68**. Proxy Player Machine **14** then marks or "daubs" all cards in play as indicated in step **70**. Proxy Player Machine **14** then selects the five best cards or chances purchased by each client by calculating which cards or chances have the highest probability of becoming a winner, as indicated in step **72**. From that group, Proxy Player Machine **14** then selects the five best overall cards or chances from the entire population of cards in play as indicated in step **73**. These five cards or chances are displayed on a display unit of Proxy Player Machine **14**. Proxy Player Machine **14** then checks to see if any of these five cards or chances have filled the criteria for a prize (a bingo) as indicated in step **74**. If a bingo has occurred, the winning card is displayed as indicated in step **76**, with a flashing light or alarm to attract the attention of the agent operator. If there is no winner, Proxy Player Machine **14** then checks to determine if the game in play requires or allows the player to make some decision to increase the amount wagered, change a chance for another chance, modify a chance, discontinue play of ("drop") a chance, or make some other dynamic decision. All strategic decisions are stored in that player's preference file and a determination is made of what strategic action should be taken, as indicated in step **78**. For each card requiring a strategic decision, Proxy Player Machine **14** re-enters the Chance Order Cycle **80**. Proxy Player Machine **14** then updates each client's game results file as indicated in step **82**, and is then ready for the next ball draw.

Proxy Player Machine **14** reports the results of the game either after each ball draw or after the game is completed. Proxy Player Machine **14** fetches the information from the game results file for each client. Proxy Player Machine **14** prepares that data in the form of a set of display commands for interface device **18**, which is the client's remote personal computer in the preferred embodiment.

An example of operation is given below. During a bingo game, when a ball inscribed with a certain number is drawn, Proxy Player Machine **14** prepares a message with the alpha-numeric code indicating that the ball having that number has been drawn, followed by the identification number of the five best bingo cards being played by that client in order. After each card identification number, Proxy Player Machine **14** sends instructions regarding which position to mark or "daub" on that card. Proxy Player Machine **14** then sends the identification number followed by what position to daub for all cards that need to be daubed. Daubing instructions are communicated in terms of the position on the bingo card to be daubed. Each square in each card is given a daub identification number from one to twenty-five. The daubing identification number is sent to interface device **18**, typically a remote client personal computer, for display update. The information is then stored in the client's e-mail mailbox, posted on an Internet home page, or kept in the client's game results file until the game is over, at which time the information is sent to e-mail.

The preference set up cycle is shown in FIG. **5**. When a client is in the process of signing up for the remote gaming service of which the automated Proxy Player Machine **14** is a part, as shown in step **84**, Proxy Player Machine **14** is notified and queries the client about his preferred games as shown in step **86**. At this step, Proxy Player Machine **14** may describe how the different classes of offered games are played and provide free samples of play of each available game if the client wishes to play them. Proxy Player Machine **14** determines in step **88** whether the client has indicated an interest in playing a game that requires or allows a dynamic response during play of the game. The client is then prompted to indicate his or her preference in handling dynamic decisions in step **90**. The client may elect to play the game in manual mode until Proxy Player Machine **14** can "learn" his preference as shown in step **96**. In the alternative, the client may answer questions regarding the criteria he wants Proxy Player Machine **14** to use in automatically making dynamic strategic game play decisions on his behalf. For example, if the client wants to have Proxy Player Machine **14** play a blackjack game, Proxy Player Machine **14** will ask the client to select the number of points to be obtained before Proxy Player Machine **14** would refuse another card. Additionally, Proxy Player Machine **14** may ask what a client should hold within his or her hand as a function of the card shown by the dealer. If the

client prefers to play a chip-up type bingo game where the player must make a decision to pay more money to keep a bingo card in play after a certain number of balls have drawn, Proxy Player Machine **14** might ask if the client wants the Machine to:

(a) Drop a card after the sixth (or x) ball is drawn if there are no daubs on that card (or no more than y daubs on that card).

(b) Drop a card after the ninth (or w) ball is drawn if a card is not within one (or z) daubs of having a bingo.

(c) Drop a card after any ball draw if the probability of winning, P(win), does not exceed 50% (or xx%) as computed by the Machine, using an algorithm which computes P(win) as a function of the number of competing cards in play, the number of balls that have been drawn, and the number of daubs on the card.

(d) Drop a card after any ball draw if the expected value of the win does not exceed 50% (or yy%) as computed by the Machine, using an algorithm which computes P(win) and adds to it the size of the prizes.

If Proxy Player Machine **14** is in the manual learning mode for a client, it accumulates a running average of the value of x, y, w, z, xx, and yy when the client drops a card. After a certain number of games, for example ten, Proxy Player Machine **14** shows the client the averages of the values of x, y, w, z, xx, and yy and asks if the client is ready to enter into the mode where Proxy Player Machine **14** automatically makes strategic game play decisions based on one or more of the criteria available.

Whereas, the present invention has been described in relation to the drawings attached hereto, it should be understood that other and further modifications, apart from those shown or suggested herein, may be made within the spirit and scope of this invention.

What is claimed is:

1. A proxy player machine comprising:

a central processor unit,

a client interface for communicating with said central processor unit;

a data base for storing a record of games and a schedule of available games and means of communicating said record and schedule to said central processor unit;

a timer for determining when a time threshold is met and notifying said central processor unit;

a chance purchase interface for communicating with said central processor unit;

an account interface for communicating with said central processor unit;

a player preference file for storing strategic decisions of a client and means for communicating said decisions to said central processor unit;

a database containing a record of cards in play in communication with said central processor unit;

a ball draw input interface for communicating ball drawing results with said central processor unit; and

an operator interface for accepting display data from said central processor unit.

2. A proxy player machine according to claim **1** further comprising:

a communications processor for communicating with said client interface and said operator interface.

3. A proxy player machine according to claim **2** further comprising:

an interface device for communicating with said communications processor.

4. A proxy player machine according to claim **3** wherein said communications processor communicates with a plurality of said interface devices.

5. A proxy player machine according to claim **3** wherein said interface device is a personal computer.

6. A proxy player machine according to claim **5** wherein said communications processor communicates with a plurality of said interface devices.

7. A proxy player machine according to claim **1** further comprising:

an order entry device for communicating to said chance purchase interface the type and number of chances to be purchased on behalf of the remote client.

8. A proxy player machine according to claim **1** further comprising:

a random ball call device for communicating with said ball draw input interface.

9. A method of gaming by a remote client by utilizing a computerized proxy player, said method comprising:

maintaining a debit record of a client proxy player balance;

permitting a client to order a game;

debiting said debit record by a cost of said game;

executing decisions made by said client;

constructing a player preference file for storing strategic decisions of a client; and

communicating results of said game to said client.

10. A method of gaming according to claim **9** wherein said step of permitting a client to order a game further permits a client to order a plurality of chances.

11. A method of gaming according to claim **9** further comprising the steps of:

utilizing said player preference file to play a game according to the client's gaming preferences without requiring further input from said client.

12. A method of gaming according to claim **9** wherein said step of communicating results of said game to said client is by means of a reusable receipt.

13. A method of gaming according to claim **12** wherein said reusable receipt is a personal digital assistant.

14. A method of gaming according to claim **12** wherein said reusable receipt is a plastic card.

15. A method of gaming according to claim **12** wherein said reusable receipt is a debit card.

* * * * *

EVIDENCE APPENDIX E

COPY OF BRENNER ET AL. U.S. PATENT NO. 6,099,409

US006099409A

United States Patent [19]

Brenner et al.

[11] **Patent Number: 6,099,409**

[45] **Date of Patent: *Aug. 8, 2000**

[54] **INTERACTIVE WAGERING SYSTEMS AND PROCESSES**

[75] Inventors: **Mark A. Brenner**, Tulsa; **Everett L. Devore**, Broken Arrow; **Ronald E. Dewell**, Tulsa; **Andrew T. Lucas**, Broken Arrow; **Richard E. McNutt**, Glenpool; **Mitch L. Neilsen**, Stillwater; **Brent E. Perry**, Tulsa; **W. Scott Reneau**, Tulsa; **Kannan Srikanth**, Tulsa; **Jon C. Zaring**, Tulsa, all of Okla.

[73] Assignee: **ODS Technologies, L.P.**, Broomfield, Colo.

[*] Notice: This patent is subject to a terminal disclaimer.

[21] Appl. No.: **09/372,935**

[22] Filed: **Aug. 12, 1999**

Related U.S. Application Data

[63] Continuation of application No. 09/138,953, Aug. 24, 1998, Pat. No. 6,004,211, which is a continuation of application No. 08/526,007, Sep. 8, 1995, Pat. No. 5,830,068.

[51] **Int. Cl.**[7] **A63F 9/22**

[52] **U.S. Cl.** **463/40**; 463/25; 700/93

[58] **Field of Search** 463/1, 6, 16, 28, 463/25, 40–42; 700/91, 92, 93

[56] **References Cited**

U.S. PATENT DOCUMENTS

3,697,698	10/1972	Oswald et al.	179/15 A
3,810,627	5/1974	Levy	273/138 A
3,909,002	9/1975	Levy	273/138 A
4,339,798	7/1982	Hedges et al.	364/412
4,467,424	8/1984	Hedges et al.	364/412

(List continued on next page.)

FOREIGN PATENT DOCUMENTS

0 450 520 A2	10/1991	European Pat. Off.	A63F 3/06
0 620 688 A2	10/1994	European Pat. Off.	H04N 7/14
0 624 039 A2	11/1994	European Pat. Off.	H04N 7/173
2 229 565	9/1990	United Kingdom	A63F 9/00
2 300 535	11/1996	United Kingdom	H04N 5/262
81/01664	6/1981	WIPO	A63B 71/06
95/01058	1/1995	WIPO	H04N 7/16

OTHER PUBLICATIONS

"And We're Off To The Races!" John Burgess, The Washington Post, Jan. 16, 1995.

"The Home Betting Channel", Vinnie Perrone, The Washington Post, Dec. 15, 1994.

"Interactive Wagering A Good Bet", Maury Wolff, Daily Racing Form, Jan. 29, 1995.

"New On TV: You Bet Your Horse", Ross Peddicord, The Sun, Baltimore, Maryland, Dec. 15, 1994.

"Home Wagering Is On The Way", Michael Hiestand, USA Today, Dec. 7, 1994.

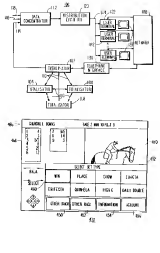
(List continued on next page.)

Primary Examiner—Valencia Martin-Wallace
Assistant Examiner—John M. Hotaling, II
Attorney, Agent, or Firm—Fish & Neave; G. Victor Treyz; James A. Leiz

[57] **ABSTRACT**

Systems and processes for interactive off-track wagering are provided. A user reviews racing information and places bets using an off-track terminal. The user interactively selects a desired racetrack and race. Odds, pools, and payoff amounts may be viewed for a variety of complex wager types. To place a wager, the user selects a wager type, wager amount, and the desired runners. Account information can be reviewed. If desired, the user can transfer funds from a bank account to an account used for wagering. Racing videos can be viewed while the user reviews odds and places bets. Video clips of past races can be ordered. Related advertisements can be presented using text or video clips. Merchandise may be ordered interactively. Information regarding system usage may be gathered.

36 Claims, 50 Drawing Sheets



U.S. PATENT DOCUMENTS

4,592,546	6/1986	Fascenda et al.	273/1 E
4,652,998	3/1987	Koza et al.	364/412
4,669,730	6/1987	Small	273/138 A
4,694,490	9/1987	Harvey et al.	380/20
4,704,725	11/1987	Harvey et al.	380/9
4,706,121	11/1987	Young	358/142
4,745,468	5/1988	Von Kohorn	358/84
4,760,527	7/1988	Sidley	364/412
4,799,683	1/1989	Bruner, Jr.	273/138 A
4,815,741	3/1989	Small	273/138 A
4,876,592	10/1989	Von Kohorn	358/84
4,882,473	11/1989	Bergeron et al.	235/380
4,926,255	5/1990	Von Kohorn	358/84
4,965,825	10/1990	Harvey et al.	380/9
5,034,807	7/1991	Von Kohorn	358/84
5,038,022	8/1991	Lucero	235/380
5,057,915	10/1991	Von Kohorn	358/84
5,073,931	12/1991	Audebert et al.	380/23
5,083,271	1/1992	Thacher et al.	364/411
5,083,800	1/1992	Lockton	273/439
5,109,414	4/1992	Harvey et al.	380/9
5,128,752	7/1992	Von Kohorn	358/84
5,227,874	7/1993	Von Kohorn	358/84
5,233,654	8/1993	Harvey et al.	380/20
5,249,044	9/1993	Von Kohorn	358/86
5,259,613	11/1993	Marnell, II	273/138 A
5,283,734	2/1994	Von Kohorn	364/412
5,340,119	8/1994	Goldfarb	273/439
5,408,417	4/1995	Wilder	364/479
5,411,258	5/1995	Wilson et al.	273/86 B
5,415,416	5/1995	Scagnelli et al.	273/439
5,462,275	10/1995	Lowe et al.	273/94
5,564,977	10/1996	Algie	463/42
5,647,795	7/1997	Stanton	463/1
B1 4,745,468	6/1991	Von Kohorn .	

OTHER PUBLICATIONS

"Telegambling Is Odds On Bet To Make An Impact", Gary Arlen, Multichannel News, Nov. 7, 1994.

"ODS Bets On Horse Racing", Mitch Mauer, Tulsa World, Oct. 23, 1994.

"Patents", Sabra Chartrand, The New York Times, Feb. 28, 1994.

"An Open–Systems Approach To Video On Demand", Yee–Hsiang Chang et al., IEEE Communications Magazine, May, 1994.

"A Scenario For The Deployment Of Interactive Multimedia Cable Television Systems In The United States In The 1990's", Matthew D. Miller, Proceedings of the IEEE, vol. 82, No. 4, Apr., 1994, pp. 585–589.

"Are Coin–Op Slot Machines Going The Way Of The Dinosaur?", Matt Connor, Gaming Business, vol. 15, No. 4, Apr. 5, 1994, pp. 1, 56, and 58.

TrackMaster User's Guide Version 2.0.7, Apr., 1994, AXCIS Pocket Information Network, Inc., Santa Clara, California.

Video Technology News, Feb. 14, 1994, pp. 7 and 8.

"Big League Electronics", Playboy (undated).

Tiny Tim Brochure, Auto Tote Systems Inc., Newark, Delaware (undated).

BetMate Brochure, AmTote, Hunt Valley, Maryland (undated).

Probe XL Brochure, AutoTote Systems, Inc., Newark, Delaware (undated).

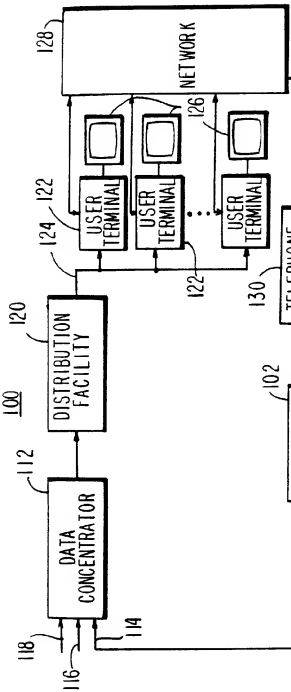

100
DATA CONCENTRATOR
112
DISTRIBUTION FACILITY
120
TOTALISATOR
102
TOTALISATOR
104
TOTALISATOR
106
TOTALISATOR
108
TELEPHONE INTERFACE
130
USER TERMINAL
122
USER TERMINAL
124
USER TERMINAL
126
NETWORK
128
110
114
116
118

FIG. 1

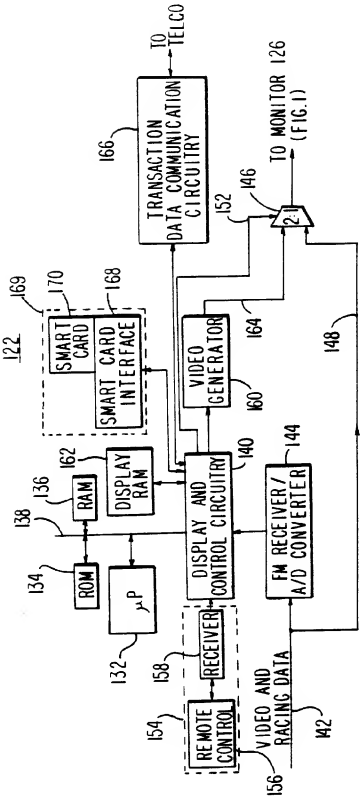

TO TELCO
166
TRANSACTION DATA COMMUNICATION CIRCUITRY
TO MONITOR 126 (FIG. 1)
146
152
2:1
169
170
168
122
SMART CARD
SMART CARD INTERFACE
VIDEO GENERATOR
164
148
160
162
DISPLAY RAM
140
144
138
136
RAM
DISPLAY AND CONTROL CIRCUITRY
FM RECEIVER/ A/D CONVERTER
134
ROM
μP
132
158
RECEIVER
154
REMOTE CONTROL
156
VIDEO AND RACING DATA
142

FIG. 2

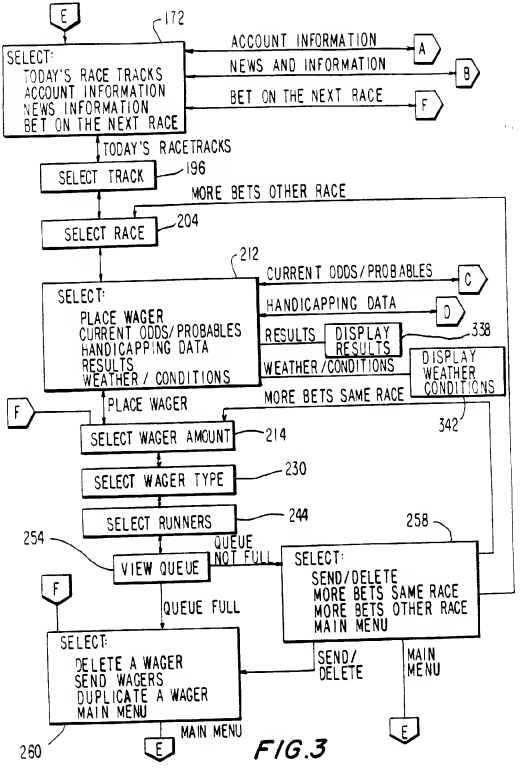

E
172
SELECT:
TODAY'S RACE TRACKS
ACCOUNT INFORMATION
NEWS INFORMATION
BET ON THE NEXT RACE
ACCOUNT INFORMATION
A
NEWS AND INFORMATION
B
BET ON THE NEXT RACE
F
TODAY'S RACETRACKS
SELECT TRACK
196
MORE BETS OTHER RACE
SELECT RACE
204
212
SELECT:
PLACE WAGER
CURRENT ODDS/PROBABLES
HANDICAPPING DATA
RESULTS
WEATHER / CONDITIONS
CURRENT ODDS/PROBABLES
C
HANDICAPPING DATA
D
RESULTS
DISPLAY RESULTS
338
WEATHER/CONDITIONS
DISPLAY WEATHER CONDITIONS
342
F
PLACE WAGER
MORE BETS SAME RACE
SELECT WAGER AMOUNT
214
SELECT WAGER TYPE
230
SELECT RUNNERS
244
258
254
QUEUE NOT FULL
VIEW QUEUE
SELECT:
SEND/DELETE
MORE BETS SAME RACE
MORE BETS OTHER RACE
MAIN MENU
F
QUEUE FULL
SELECT:
DELETE A WAGER
SEND WAGERS
DUPLICATE A WAGER
MAIN MENU
SEND/ DELETE
MAIN MENU
E
260
MAIN MENU
E

FIG.3

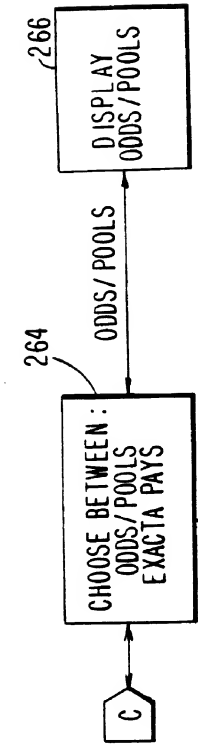

266
DISPLAY ODDS/POOLS
ODDS/POOLS
264
CHOOSE BETWEEN: ODDS/POOLS EXACTA PAYS
EXACTA PAYS
270
DISPLAY EXACTA PAYS ODDS
C

FIG. 4

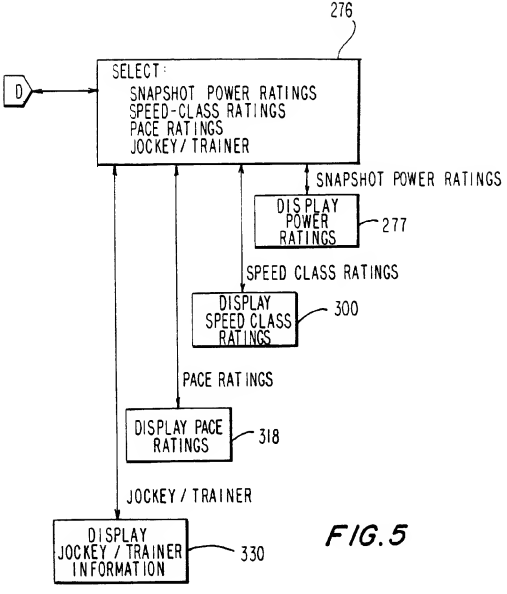

276
D
SELECT:
SNAPSHOT POWER RATINGS
SPEED-CLASS RATINGS
PACE RATINGS
JOCKEY/TRAINER
SNAPSHOT POWER RATINGS
DISPLAY POWER RATINGS
277
SPEED CLASS RATINGS
DISPLAY SPEED CLASS RATINGS
300
PACE RATINGS
DISPLAY PACE RATINGS
318
JOCKEY/TRAINER
DISPLAY JOCKEY/TRAINER INFORMATION
330

FIG. 5

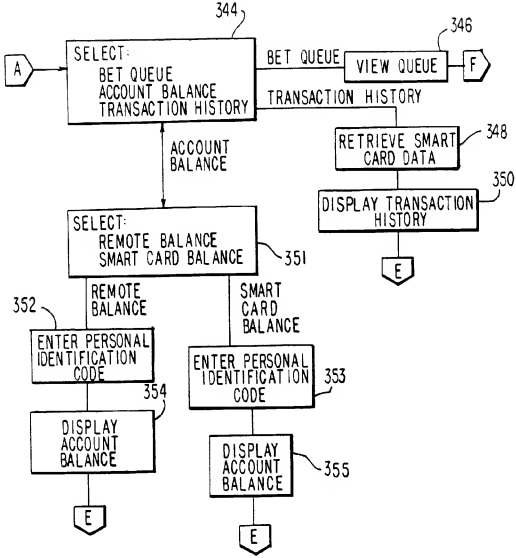

344
346
A
SELECT:
BET QUEUE
ACCOUNT BALANCE
TRANSACTION HISTORY
BET QUEUE
VIEW QUEUE
F
TRANSACTION HISTORY
ACCOUNT BALANCE
RETRIEVE SMART CARD DATA
348
350
DISPLAY TRANSACTION HISTORY
E
SELECT:
REMOTE BALANCE
SMART CARD BALANCE
351
REMOTE BALANCE
SMART CARD BALANCE
352
ENTER PERSONAL IDENTIFICATION CODE
ENTER PERSONAL IDENTIFICATION CODE
353
354
DISPLAY ACCOUNT BALANCE
DISPLAY ACCOUNT BALANCE
355
E
E

FIG.6

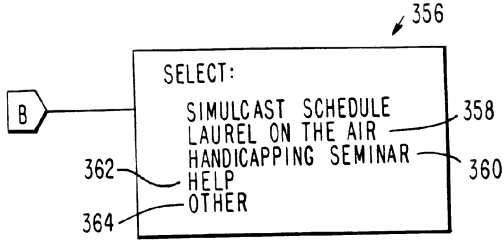

356
SELECT:
B
SIMULCAST SCHEDULE
LAUREL ON THE AIR
HANDICAPPING SEMINAR
HELP
OTHER
358
360
362
364

FIG. 7

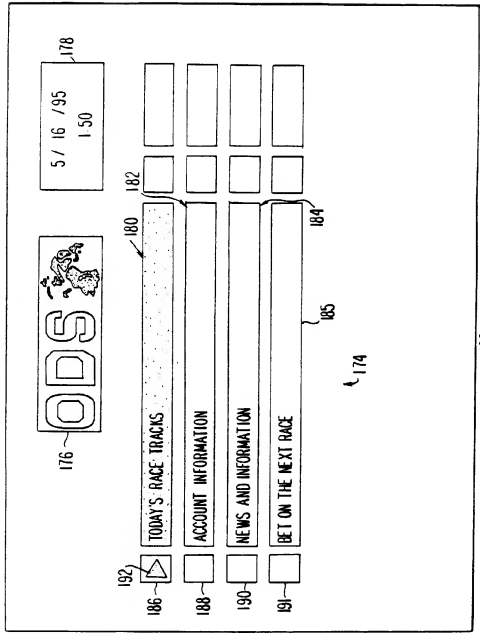

5 / 16 /95
1:50
178
176
180
182
184
185
174
186
192
TODAY'S RACE TRACKS
ACCOUNT INFORMATION
NEWS AND INFORMATION
BET ON THE NEXT RACE
188
190
191

FIG. 8

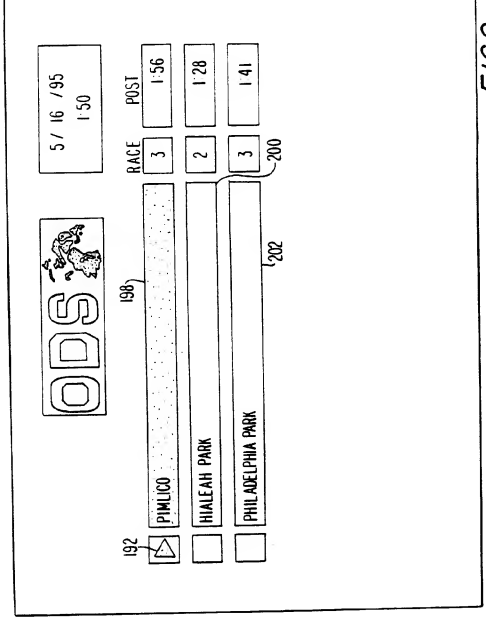

ODS
5/16/95
1:50
RACE
POST
PIMLICO
3
1:56
HIALEAH PARK
2
1:28
PHILADELPHIA PARK
3
1:41
192
198
200
202

FIG.9

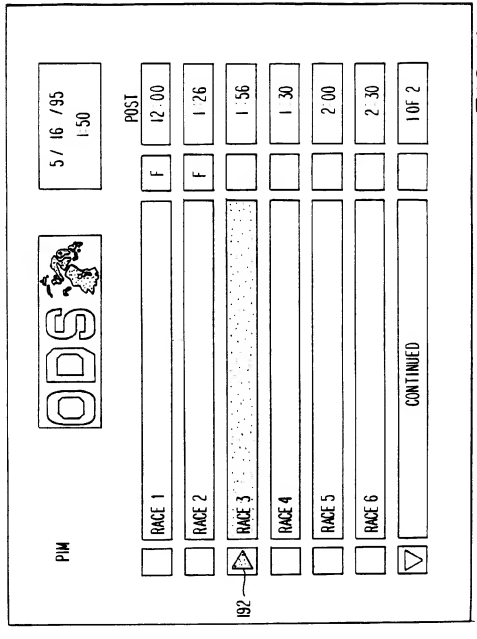

PIM
ODS
5/16/95
1:50
POST
RACE 1
F
12:00
RACE 2
F
1:26
RACE 3
1:56
RACE 4
1:30
RACE 5
2:00
RACE 6
2:30
CONTINUED
1 OF 2
192
206

FIG. 10

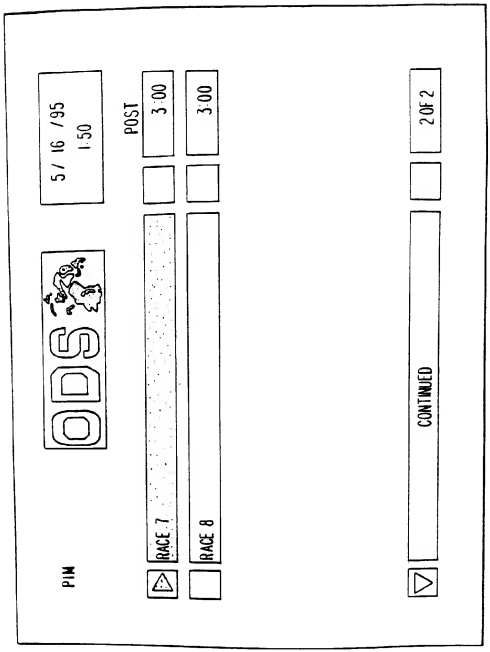

PIM
ODS
5/16/95
1:50
POST
RACE 7
3:00
RACE 8
3:00
CONTINUED
2 OF 2
208

FIG. 11

FIG. 12

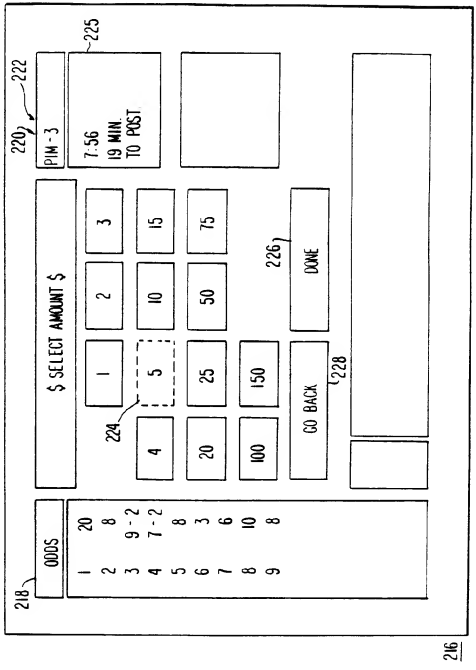

216
218
ODDS
1 20
2 8
3 9 - 2
4 7 - 2
5 8
6 3
7 6
8 10
9 8
$ SELECT AMOUNT $
1
2
3
4
5
10
15
20
25
50
75
100
150
224
220
222
PIM - 3
225
7:56
19 MIN.
TO POST
226
GO BACK
DONE
228

FIG. 13

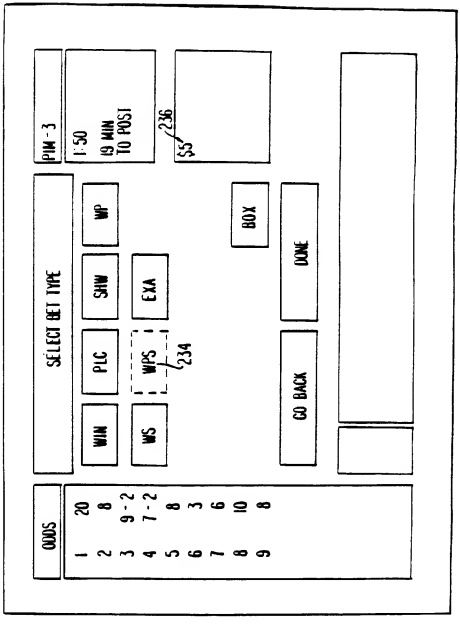

ODDS
1 20
2 8
3 9-2
4 7-2
5 8
6 3
7 6
8 10
9 8
SELECT BET TYPE
WIN
PLC
SHW
WP
WS
WPS
EXA
234
GO BACK
BOX
DONE
PIM-3
1-50
19 MIN
TO POST
236
55
232

FIG. 14

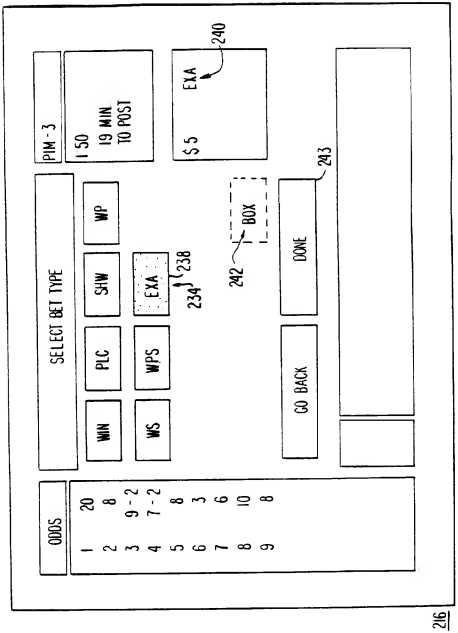
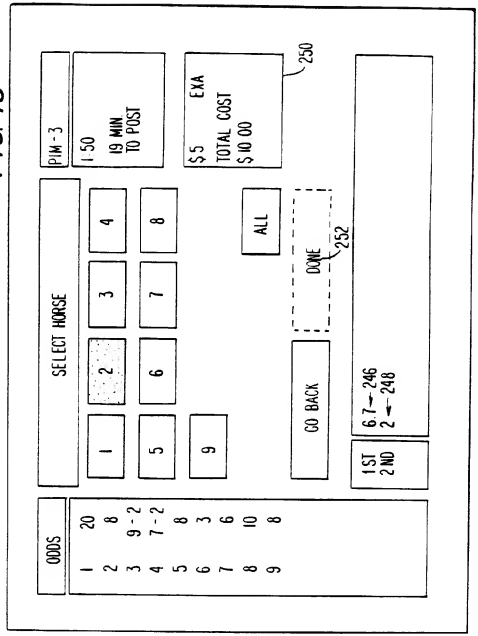

ODDS
1 20
2 8
3 9-2
4 7-2
5 8
6 3
7 6
8 10
9 8
SELECT BET TYPE
WIN
PLC
SHW
WP
WS
WPS
EXA
238
234
242
BOX
GO BACK
DONE
243
PIM-3
1 50
19 MIN
TO POST
$5 EXA
240
216

FIG. 15


ODDS
1 20
2 8
3 9 - 2
4 7 - 2
5 8
6 3
7 6
8 10
9 8
SELECT HORSE
1
2
3
4
5
6
7
8
9
ALL
GO BACK
DONE
252
PIM - 3
1 50
19 MIN
TO POST
$5 EXA
TOTAL COST
$ 10 00
250
1 ST
2 ND
6 7 - 246
2 - 248

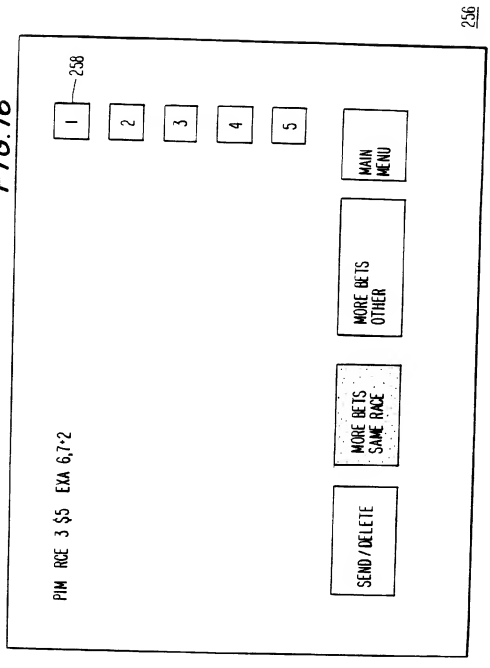
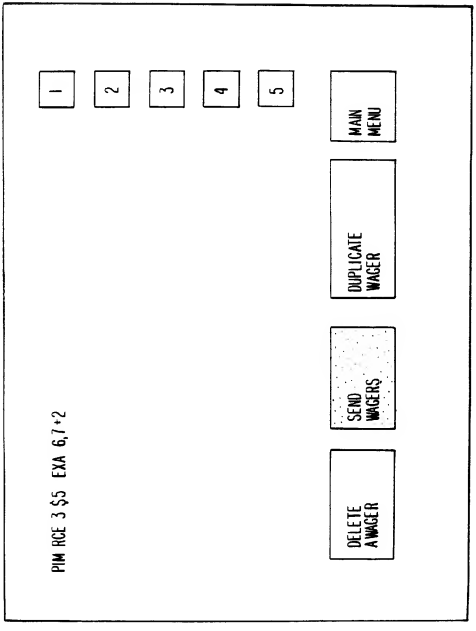

256
258
1
2
3
4
5
PIM RCE 3 $5 EXA 6,7*2
SEND/DELETE
MORE BETS SAME RACE
MORE BETS OTHER
MAIN MENU

FIG. 16

FIG. 17


PIM RCE 3 $5 EXA 6,7+2
1
2
3
4
5
DELETE A WAGER
SEND WAGERS
DUPLICATE WAGER
MAIN MENU
262

PIM
RCE 3

ODS

5 / 16 /95
1 50

HRS	ODDS	WIN	PLACE	SHOW
1	20/1	70	19	21
2	8/1	91	24	12
3	9/2	126	43	31
4	7/2	128	17	8
5	8/1	97	51	32
6	3/1	340	110	117
7	6/1	176	61	20
8	10/1	19	11	5
TOTALS (ALL)		1102	350	255

268

FIG. 18

FIG. 19

ODDS		1 AND	AND 1
1	20	- -	- -
2	8	150	159
3	9-2	212	222
4	7-2	464	365
5	8	425	255
6	3	511	189
7	6	269	111
8	10	511	567
9	8	1277	1022

PTM - 3

1 50

19 MIN. TO POST

EXACTA PAYS

274

POOL: $ 17,000

(USE UP/DOWN KEYS FOR NEXT HORSE)

272

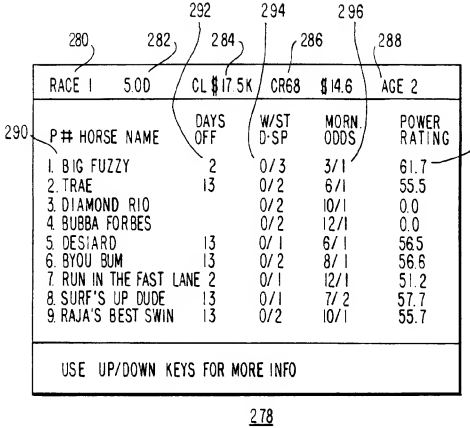

292
294
296
280
282
284
286
288
RACE 1 5.0D CL $17.5K CR68 $14.6 AGE 2
290
P# HORSE NAME
DAYS OFF
W/ST D-SP
MORN. ODDS
POWER RATING
298
1. BIG FUZZY 2 0/3 3/1 61.7
2. TRAE 13 0/2 6/1 55.5
3. DIAMOND RIO 0/2 10/1 0.0
4. BUBBA FORBES 0/2 12/1 0.0
5. DESIARD 13 0/1 6/1 56.5
6. BYOU BUM 13 0/2 8/1 56.6
7. RUN IN THE FAST LANE 2 0/1 12/1 51.2
8. SURF'S UP DUDE 13 0/1 7/2 57.7
9. RAJA'S BEST SWIN 13 0/2 10/1 55.7
USE UP/DOWN KEYS FOR MORE INFO
278

FIG. 20

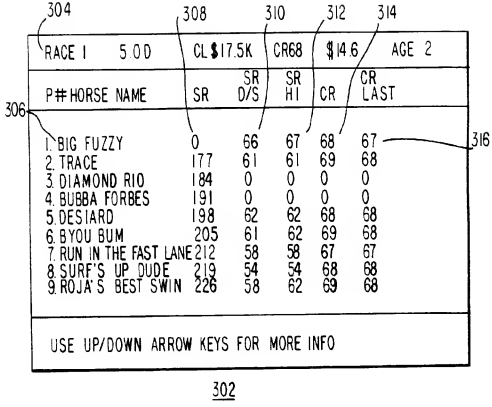
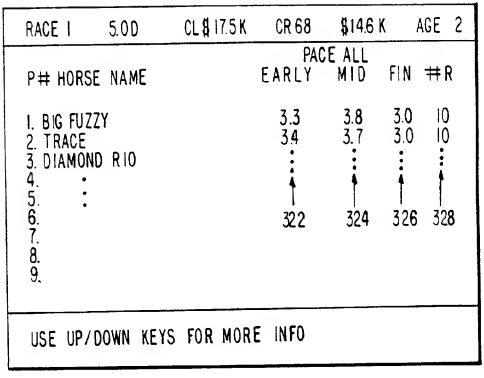

304
308
310
312
314
RACE 1 5.0D
CL $17.5K
CR68
$14.6
AGE 2
306
P# HORSE NAME
SR
SR D/S
SR HI
CR
CR LAST
1. BIG FUZZY 0 66 67 68 67
2. TRACE 177 61 61 69 68
3. DIAMOND RIO 184 0 0 0 0
4. BUBBA FORBES 191 0 0 0 0
5. DESIARD 198 62 62 68 68
6. BYOU BUM 205 61 62 69 68
7. RUN IN THE FAST LANE 212 58 58 67 67
8. SURF'S UP DUDE 219 54 54 68 68
9. ROJA'S BEST SWIN 226 58 62 69 68
316
USE UP/DOWN ARROW KEYS FOR MORE INFO
302

FIG. 21


RACE 1 5.0D CL$17.5K CR 68 $14.6 K AGE 2
PACE ALL
P# HORSE NAME EARLY MID FIN #R
1. BIG FUZZY 3.3 3.8 3.0 10
2. TRACE 3.4 3.7 3.0 10
3. DIAMOND RIO
4.
5.
6. 322 324 326 328
7.
8.
9.
USE UP/DOWN KEYS FOR MORE INFO

320

FIG. 22

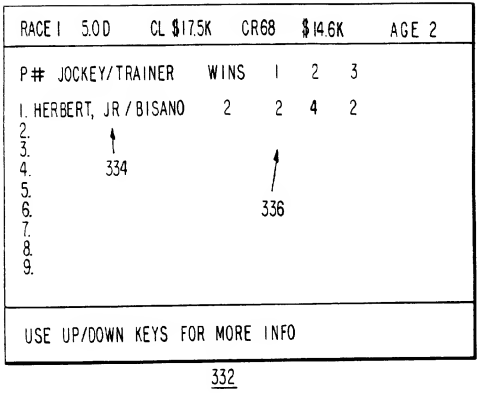

RACE 1 5.0D CL $17.5K CR68 $14.6K AGE 2
P# JOCKEY/TRAINER WINS 1 2 3
1. HERBERT, JR / BISANO 2 2 4 2
2.
3.
4.
5.
6.
7.
8.
9.
334
336
USE UP/DOWN KEYS FOR MORE INFO
332

FIG 23

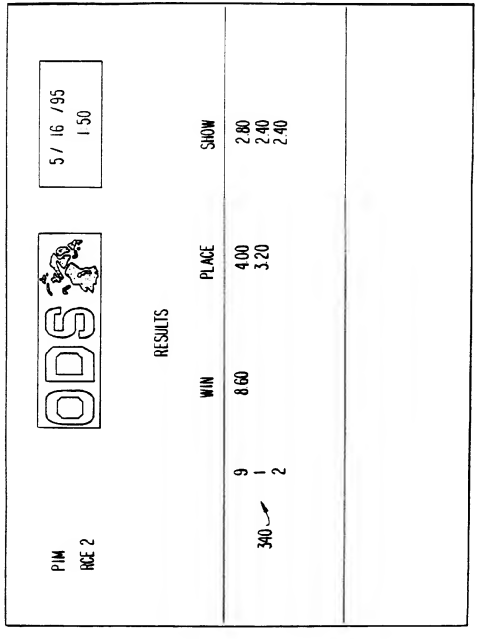

PIM
RACE 2
ODS
5/16/95
1:50
RESULTS
WIN
PLACE
SHOW
9
1
2
8.60
4.00
3.20
2.80
2.40
2.40
340

FIG. 24

ODS
5 / 16 / 95
1:50
WTOP 1500AM - RACE DAYS AT 11:15AM
SUNDAYS AT 11:30AM
WBAL 1090AM - RACE DAYS AT 10:05AM
WTOP 1500AM - SCRATCHES WITH CLEM FLORIO
RACE DAYS AT 10:20AM, SUNDAYS AT 10:00AM
WWLG 1360AM - RACE RESULTS WITH CLEM
FLORIO. RACE DAYS AT 2:10, 3:45.

FIG.25

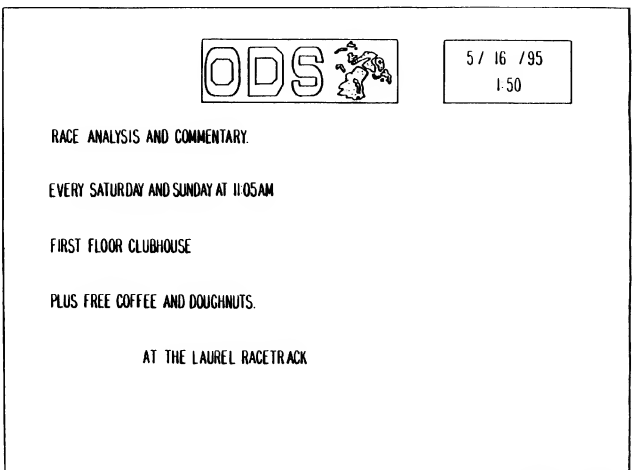

ODS
5/16/95
1:50
RACE ANALYSIS AND COMMENTARY.
EVERY SATURDAY AND SUNDAY AT 11:05AM
FIRST FLOOR CLUBHOUSE
PLUS FREE COFFEE AND DOUGHNUTS.
AT THE LAUREL RACETRACK

FIG.26

ODS
5/16/95
1:50
USE THE ARROW KEYS TO MOVE AROUND THE SCREEN. SELECT AN OPTION WITH THE BLUE "ENTER" BUTTON. JUST PICK A TRACK AND EXPLORE THE INFORMATION AVAILABLE: ODDS ON THE CURRENT RACE-YOUR OWN IN-HOME TOTE BOARD. HANDICAPPING TIPS, LATE CHANGES AND MORE. IF YOU HAVE AN ACCOUNT, PLACE A WAGER AND SEND IT TO THE TRACK WITH YOUR REMOTE CONTROL.
TO SET UP A WAGERING ACCOUNT OR FOR CUSTOMER SERVICE CALL: 1-800-XXX-XXXX.

FIG. 27

ODDS
5/16/95
1:50
IF YOU BET TO WIN, YOU COLLECT IF YOUR HORSE FINISHES FIRST. IF YOU BET TO PLACE, YOU WIN IF YOUR HORSE FINISHES FIRST OR SECOND. IF YOU BET TO SHOW, YOU COLLECT IF YOUR HORSE FINISHES FIRST, SECOND, OR THIRD. YOU WILL USUALLY COLLECT MORE ON A SUCCESSFUL WIN BET THAN A SUCCESSFUL SHOW BET.

FIG. 28

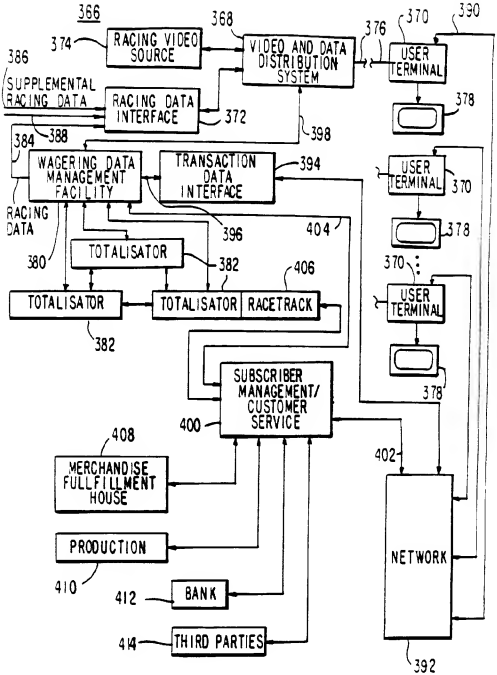

366
RACING VIDEO SOURCE
374
368
VIDEO AND DATA DISTRIBUTION SYSTEM
376
370
390
USER TERMINAL
386
SUPPLEMENTAL RACING DATA
RACING DATA INTERFACE
372
398
378
384
388
WAGERING DATA MANAGEMENT FACILITY
TRANSACTION DATA INTERFACE
394
USER TERMINAL
370
RACING DATA
396
404
378
380
TOTALISATOR
382
406
370
TOTALISATOR
TOTALISATOR
RACETRACK
USER TERMINAL
382
378
SUBSCRIBER MANAGEMENT/ CUSTOMER SERVICE
400
408
402
MERCHANDISE FULFILLMENT HOUSE
PRODUCTION
NETWORK
410
412
BANK
414
THIRD PARTIES
392

FIG. 29

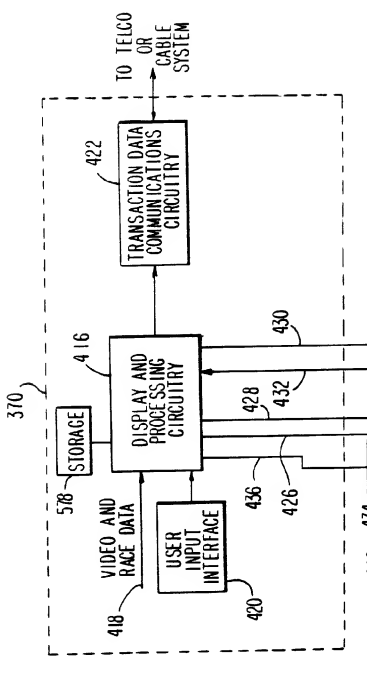

TO TELCO OR CABLE SYSTEM
422
TRANSACTION DATA COMMUNICATIONS CIRCUITRY
370
416
DISPLAY AND PROCESSING CIRCUITRY
STORAGE
578
VIDEO AND RACE DATA
418
USER INPUT INTERFACE
420
430
428
432
436
426
424
VIDEO RECORDER
378
SET-TOP BOX
434
440
SET-TOP BOX
442

FIG. 30

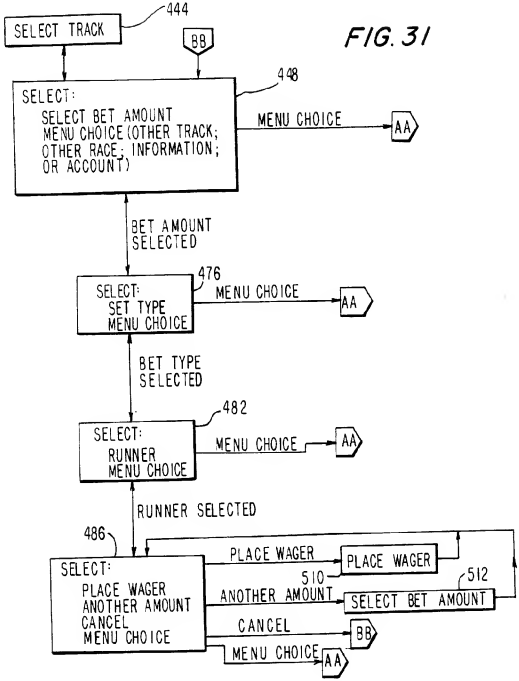

SELECT TRACK
444
BB
SELECT:
SELECT BET AMOUNT
MENU CHOICE (OTHER TRACK;
OTHER RACE; INFORMATION;
OR ACCOUNT)
448
MENU CHOICE
AA
BET AMOUNT
SELECTED
SELECT:
SET TYPE
MENU CHOICE
476
MENU CHOICE
AA
BET TYPE
SELECTED
SELECT:
RUNNER
MENU CHOICE
482
MENU CHOICE
AA
RUNNER SELECTED
486
SELECT:
PLACE WAGER
ANOTHER AMOUNT
CANCEL
MENU CHOICE
PLACE WAGER
PLACE WAGER
510
ANOTHER AMOUNT
SELECT BET AMOUNT
512
CANCEL
BB
MENU CHOICE
AA

FIG. 31

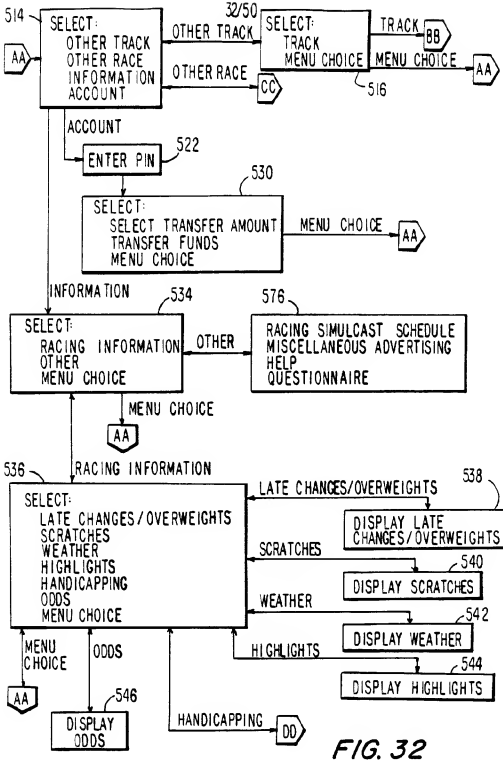

514
AA
SELECT:
OTHER TRACK
OTHER RACE
INFORMATION
ACCOUNT
OTHER TRACK
32/50
SELECT:
TRACK
MENU CHOICE
TRACK
BB
MENU CHOICE
AA
OTHER RACE
CC
516
ACCOUNT
ENTER PIN
522
530
SELECT:
SELECT TRANSFER AMOUNT
TRANSFER FUNDS
MENU CHOICE
MENU CHOICE
AA
INFORMATION
534
SELECT:
RACING INFORMATION
OTHER
MENU CHOICE
OTHER
576
RACING SIMULCAST SCHEDULE
MISCELLANEOUS ADVERTISING
HELP
QUESTIONNAIRE
MENU CHOICE
AA
536
RACING INFORMATION
SELECT:
LATE CHANGES/OVERWEIGHTS
SCRATCHES
WEATHER
HIGHLIGHTS
HANDICAPPING
ODDS
MENU CHOICE
LATE CHANGES/OVERWEIGHTS
538
DISPLAY LATE CHANGES/OVERWEIGHTS
SCRATCHES
540
DISPLAY SCRATCHES
WEATHER
542
DISPLAY WEATHER
HIGHLIGHTS
544
DISPLAY HIGHLIGHTS
MENU CHOICE
ODDS
AA
546
DISPLAY ODDS
HANDICAPPING
DD

FIG. 32

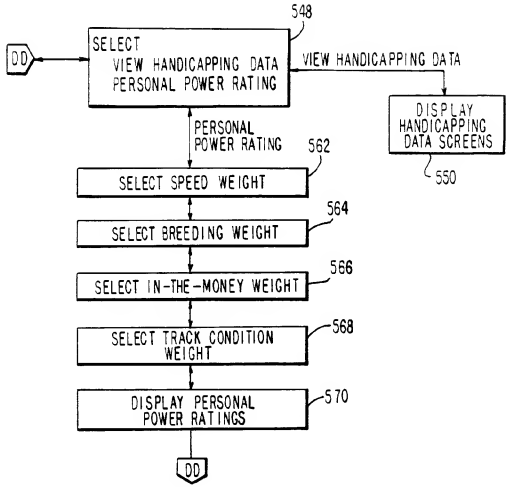

548
SELECT
VIEW HANDICAPPING DATA
PERSONAL POWER RATING
DD
VIEW HANDICAPPING DATA
DISPLAY HANDICAPPING DATA SCREENS
550
PERSONAL POWER RATING
562
SELECT SPEED WEIGHT
564
SELECT BREEDING WEIGHT
566
SELECT IN-THE-MONEY WEIGHT
568
SELECT TRACK CONDITION WEIGHT
570
DISPLAY PERSONAL POWER RATINGS
DD

FIG. 33

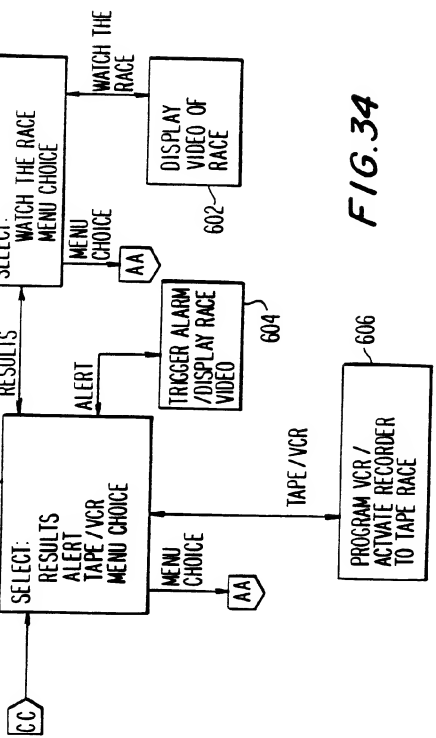

C.C
SELECT:
RESULTS
ALERT
TAPE/VCR
MENU CHOICE
596
MENU CHOICE
AA
RESULTS
ALERT
TAPE/VCR
TRIGGER ALARM /DISPLAY RACE VIDEO
604
PROGRAM VCR / ACTVATE RECORDER TO TAPE RACE
606
SELECT:
WATCH THE RACE
MENU CHOICE
600
MENU CHOICE
AA
WATCH THE RACE
DISPLAY VIDEO OF RACE
602

FIG. 34

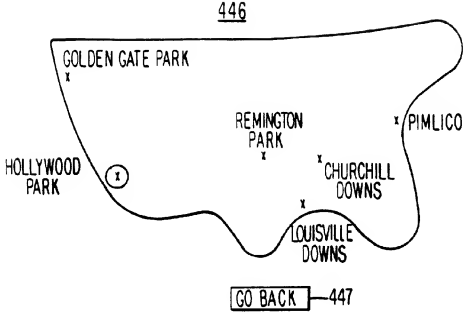

446
GOLDEN GATE PARK
REMINGTON PARK
PIMLICO
HOLLYWOOD PARK
CHURCHILL DOWNS
LOUISVILLE DOWNS
GO BACK
447

FIG. 35

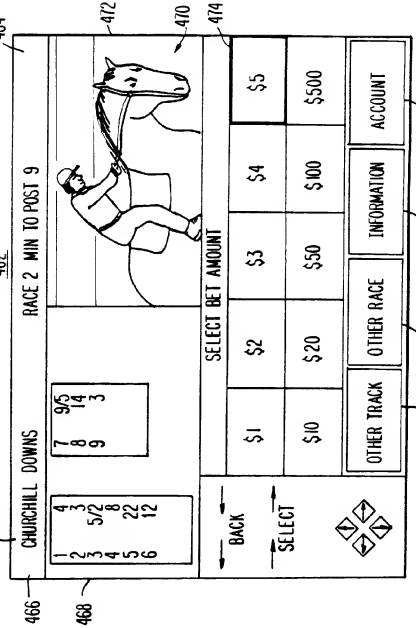

458
460
462
464
466
468
472
410
474
CHURCHILL DOWNS
RACE 2 MIN TO POST 9
1 4
2 3
3 5/2
4 8
5 22
6 12
7 9/5
8 14
9 3
SELECT BET AMOUNT
BACK
SELECT
$1
$2
$3
$4
$5
$10
$20
$50
$100
$500
OTHER TRACK
OTHER RACE
INFORMATION
ACCOUNT
450
452
454
456

FIG. 36

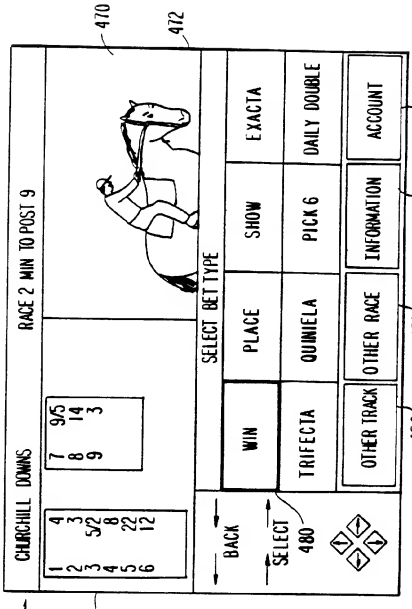

466
468
470
472
CHURCHILL DOWNS
RACE 2 MIN TO POST 9
1 4
2 3
3 5/2
4 8
5 22
6 12
7 9/5
8 14
9 3
SELECT BET TYPE
BACK
SELECT
480
WIN
PLACE
SHOW
EXACTA
TRIFECTA
QUINIELA
PICK 6
DAILY DOUBLE
OTHER TRACK
OTHER RACE
INFORMATION
ACCOUNT
450
452
454
456
478

FIG. 37

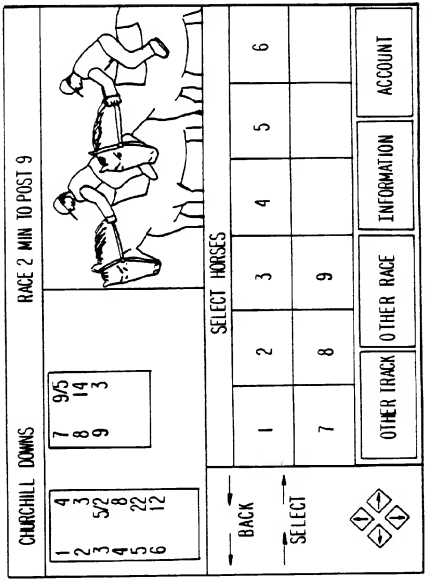

CHURCHILL DOWNS
RACE 2 MIN TO POST 9
1 4
2 3
3 5/2
4 8
5 22
6 12
7 9/5
8 14
9 3
SELECT HORSES
BACK
SELECT
1
2
3
4
5
6
7
8
9
OTHER TRACK
OTHER RACE
INFORMATION
ACCOUNT
484

FIG. 38

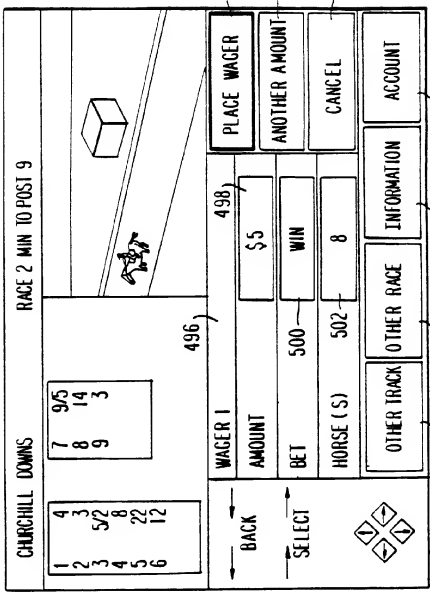

CHURCHILL DOWNS
RACE 2 MIN TO POST 9
1 4
2 3
3 5/2
4 8
5 22
6 12
7 9/5
8 14
9 3
496
WAGER 1
498
AMOUNT
$5
BET
500
WIN
HORSE (S)
502
8
BACK
SELECT
OTHER TRACK
OTHER RACE
INFORMATION
ACCOUNT
PLACE WAGER
ANOTHER AMOUNT
CANCEL
488
490
492
450
452
454
456
494

FIG. 39

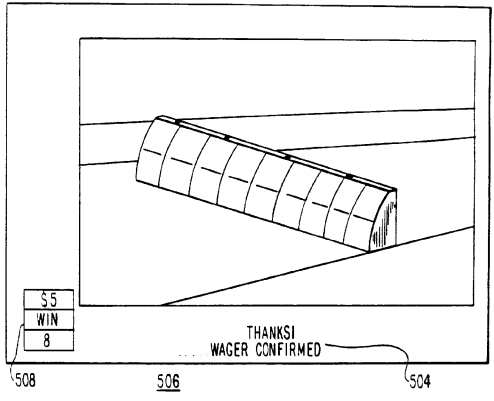


FIG. 40

CHURCHILL DOWNS
RACE 2 MIN TO POST 9
1 4
2 3
3 5/2
4 8
5 22
6 12
7 9/5
8 14
9 3
SELECT TRACK
BACK
REMINGTON PARK
LAUREL
SELECT
OAKLAND
BELMONT
OTHER TRACK
OTHER RACE
INFORMATION
ACCOUNT
518

FIG. 41

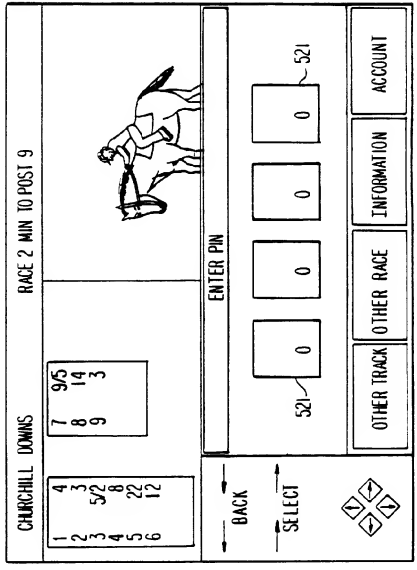

CHURCHILL DOWNS
RACE 2 MIN TO POST 9
1 4
2 3
3 5/2
4 8
5 22
6 12
7 9/5
8 14
9 3
ENTER PIN
BACK
SELECT
521
0
0
0
0
521
OTHER TRACK
OTHER RACE
INFORMATION
ACCOUNT
520

FIG. 42

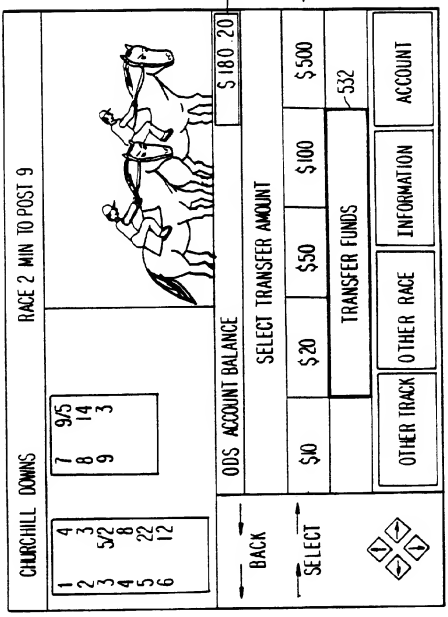

CHURCHILL DOWNS
RACE 2 MIN TO POST 9
1 4
2 3
3 5/2
4 8
5 22
6 12
7 9/5
8 14
9 3
ODS ACCOUNT BALANCE
$180.20
526
BACK
SELECT
SELECT TRANSFER AMOUNT
528
$0
$20
$50
$100
$500
TRANSFER FUNDS
532
OTHER TRACK
OTHER RACE
INFORMATION
ACCOUNT
524

FIG. 43

CHURCHILL DOWNS
RACE 2 MIN TO POST 9
1 4
2 3
3 5/2
4 8
5 22
6 12
7 9/5
8 14
9 3
SELECT INFORMATION CATEGORY
BACK
LATE CHANGES/OVERWEIGHTS
SELECT
SCRATCHES
WEATHER
HANDICAPPING
OTHER TRACK
OTHER RACE
INFORMATION
ACCOUNT
538

FIG. 44

RUNNER NO.	ODDS	ODDS PERCENTAGE
1	20	5.0 %
2	8	12.5 %
3	9/2	22.2 %
4	7/2	28.6 %
5	9/5	55.6 %
6	3	33.3 %
7	6	16.7 %
8	5	20.0 %
9	10	10.0 %

FIG. 45

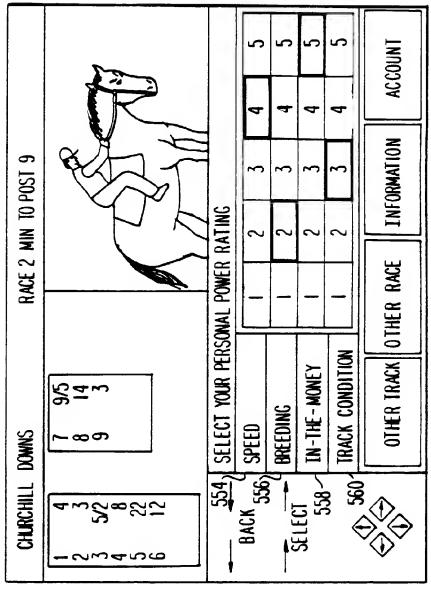
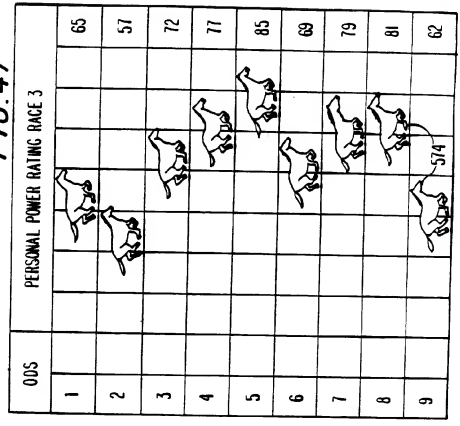

CHURCHILL DOWNS
RACE 2 MIN TO POST 9
1 4
2 3
3 5/2
4 8
5 22
6 12
7 9/5
8 14
9 3
554
SELECT YOUR PERSONAL POWER RATING
BACK
556
SPEED
BREEDING
SELECT
IN-THE-MONEY
558
TRACK CONDITION
560
1 2 3 4 5
OTHER TRACK
OTHER RACE
INFORMATION
ACCOUNT
552

FIG. 46

FIG. 47


ODS
PERSONAL POWER RATING RACE 3
1
2
3
4
5
6
7
8
9
65
57
72
77
85
69
79
81
62
574
572

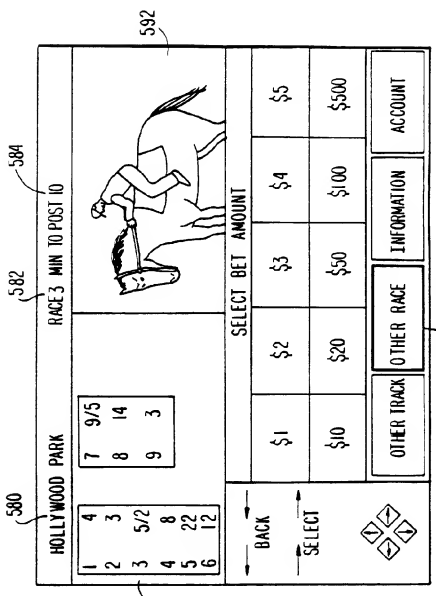

580
582
584
592
590
HOLLYWOOD PARK
RACE 3 MIN TO POST 10
1 4
2 3
3 5/2
4 8
5 22
6 12
7 9/5
8 14
9 3
SELECT BET AMOUNT
BACK
SELECT
$1
$2
$3
$4
$5
$10
$20
$50
$100
$500
OTHER TRACK
OTHER RACE
INFORMATION
ACCOUNT
594
586

FIG. 48

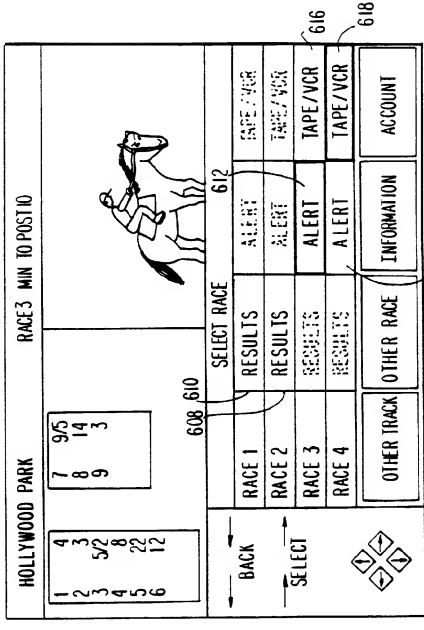

HOLLYWOOD PARK
RACE 3 MIN TO POST 10
1 4
2 3
3 5/2
4 8
5 22
6 12
7 9/5
8 14
9 3
608
610
SELECT RACE
612
BACK
SELECT
RACE 1
RACE 2
RACE 3
RACE 4
RESULTS
RESULTS
RESULTS
RESULTS
ALERT
ALERT
ALERT
ALERT
TAPE/VCR
TAPE/VCR
TAPE/VCR
TAPE/VCR
616
618
OTHER TRACK
OTHER RACE
INFORMATION
ACCOUNT
614
598

FIG 49

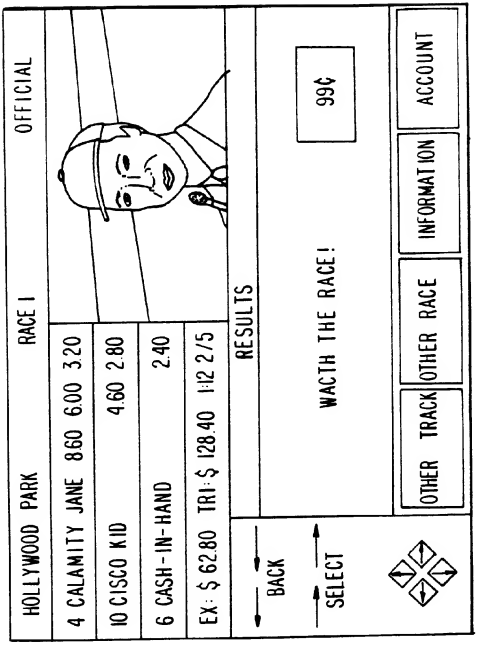

HOLLYWOOD PARK
RACE 1
OFFICIAL
4 CALAMITY JANE 8.60 6.00 3.20
10 CISCO KID 4.60 2.80
6 CASH-IN-HAND 2.40
EX: $ 62.80 TRI: $ 128.40 1:12 2/5
RESULTS
BACK
SELECT
WACTH THE RACE!
99¢
OTHER TRACK
OTHER RACE
INFORMATION
ACCOUNT

FIG. 50

INTERACTIVE WAGERING SYSTEMS AND PROCESSES

This is a continuation of application Ser. No. 09/138,953, filed Aug. 24, 1998, now U.S. Pat. No. 6,004,211, which is a continuation of patent application Ser. No. 08/526,007, filed Sep. 8, 1995, now U.S. Pat. No. 5,830,068.

BACKGROUND OF THE INVENTION

This invention relates to interactive wagering systems and particularly to interactive wagering systems for racetrack wagering. More particularly, this invention relates to off-track interactive wagering systems having user terminals for receiving racing videos and racing information via a medium other than conventional telephone lines and for displaying this information on a television monitor.

Wagering on sporting events such as horse, dog, and harness racing is a popular leisure activity. However, it is sometimes inconvenient to attend racing events in person. Not all racing fans have sufficient time to visit racetracks as often as they would like and some fans have difficulties in obtaining suitable transportation to the track. Thus, there is a need for wagering services for fans who cannot attend racing events in person.

Off-track betting establishments, which are generally more readily accessible than racetracks, have attempted to fill this need. However, a racing fan who desires to place a wager still faces the prospect of traveling to the off-track betting establishment.

Wagering via telephone is another option. A user of a telephone-based system typically sets up a telephone account against which wagers may be made. In order to place wagers, the user must interact with a computerized telephone ordering system by pressing appropriate buttons on a touch-tone telephone. This type of system is mainly used for placing wagers. Detailed racing information is typically obtained from other sources, such as printed racing programs.

Another approach for off-track wagering involves the use of dedicated devices that permit two-way serial modem communications with wagering equipment at a racetrack. These devices receive limited wagering information from the racetrack via telephone lines and provide it to a user on a liquid crystal display (LCD) screen. The user places a wager by making entries into the device which are then transmitted to the racetrack using the modem. Typical of this category of off-track wagering device are the Tiny TIM terminal of Autotote Systems, Inc., Newark, Del. and the terminal sold under the trademark "BetMate" of AmTote, Hunt Valley, Md.

Although it is possible to use terminals such as these in the home, doing so would monopolize the users' telephone line at certain times. And because the only data link with the racetrack using terminals such as the Tiny TIM or BetMate terminals is via telephone, it is not possible to receive racing videos with such terminals. In addition, the LCDs in these terminals make it difficult to display racing information in a way that may be easily viewed by the user. Because the Tiny TIM and BetMate terminals cannot be used with a television monitor, it is not possible for a user of such a terminal to display racing information on his home television set. Further, systems capable of interacting with off-track wagering terminals that use telephone lines to receive wagering information must provide a large number of simultaneous telephone connections to service each of the of the terminals. Because there is typically an extended connect time associated with each user, such systems are often unwieldy.

In addition, the racing information available through known off-track betting terminals is limited to a subset of the racing information provided by the racetracks. For example, presently available terminals may allow a user to view "win" odds (the amount wagered on a runner to win versus the amount wagered on competing runners to win). However, such terminals do not allow the user to view odds, pools, or predicted payoffs for wagers such as show, place, or more advanced wager types, such as exactas, trifectas, daily doubles, pick threes, pick fours etc.

Further, with presently known terminals, the user cannot receive or display any additional information, such as handicapping information, weather conditions, or information regarding which races at a particular track are available as video transmissions on a given day.

It would therefore be desirable to provide interactive wagering systems and processes that provide racing data to off-track wagering terminals via a medium other than conventional telephone lines.

It would also be desirable to provide interactive wagering systems and processes that provide racing data to off-track wagering terminals that display the racing data on a home television monitor.

It would also be desirable to provide wagering systems and processes that provide racing data and racing videos to off-track wagering terminals on which the racing data and racing videos are displayed.

It would also be desirable to be able to provide wagering systems and processes that provide an improved level of racing data to off-track wagering terminals.

SUMMARY OF THE INVENTION

It is therefore an object of this invention to provide interactive wagering systems and related processes for off-track wagering in which a user terminal receives racing data and video signals, displays the racing data on a monitor, and transmits wagers to a wagering facility.

It is also an object of the invention to provide interactive wagering systems and related processes for off-track wagering in which a user terminal receives racing data from a cable headend or other transmission facility.

It is also an object of the invention to provide interactive wagering systems and related processes for off-track wagering in which a user terminal receives racing data within the bandwidth of a television channel.

It is also an object of the invention to provide interactive wagering systems and related processes for off-track wagering in which a user terminal provides a user with menu options allowing selection of a racetrack, a set of races within a racetrack (e.g., a morning or afternoon "performance"), a race, a wager type, wager amount, and runners.

It is also an object of the invention to provide interactive wagering systems and related processes for off-track wagering in which a user terminal provides racing odds, pools, predicted and actual payoffs, and handicapping information

It is also an object of the invention to provide interactive wagering systems and related processes for off-track wagering in which a user terminal provides odds for wager types other than win odds, such as the odds for shows, places, exactas, trifectas, daily doubles, etc.

It is also an object of this invention to provide interactive wagering systems and related processes for off-track wagering in which a user terminal receives racing data from a racing data interface and racing videos from a source of

racing videos and simultaneously displays the racing data and video signals on a monitor.

It is also an object of the invention to provide interactive wagering systems and related processes for off-track wagering in which a user terminal presents a racing simulcast schedule on a monitor.

It is also an object of the invention to provide interactive wagering systems and related processes for off-track wagering in which a user terminal allows a user to calculate a personal power rating based on the selection by the user of personal power rating "weights" for various handicapping categories. The user terminal calculates and displays a corresponding set of personal power ratings for a number of runners.

It is also an object of the invention to provide interactive wagering systems and related processes for off-track wagering in which a user terminal displays race results in the form of prerecorded race videos supplied to a user on demand.

It is also an object of the invention to provide interactive wagering systems and related processes for off-track wagering in which a user terminal alerts a user that a race is about to be run by triggering an alarm.

It is also an object of the invention to provide interactive wagering systems and related processes for off-track wagering in which a user terminal sets a video recorder to record one or more preselected races.

It is also an object of the invention to provide interactive wagering systems and related processes for off-track wagering in which a user terminal transmits transfer instructions that initiate a transfer of funds from a bank account at a bank facility to a wagering account at a wagering facility or allows the user to draw directly from his bank account when placing wagers.

The present invention involves off-track wagering systems and related processes. Racing data such as the names and post positions of the runners that are in various races and the current odds and payoffs for those races are provided by a wagering facility (typically based on a system known as a "totalisator" located at a racetrack). Supplemental racing data such as the weather conditions at various racetracks may be provided by additional sources. A computer-based data concentrator processes the racing data from the totalisator and any additional sources and provides the racing data to a television network—typically at a main distribution node for a cable television network known as the "headend" facility. The cable headend provides the racing data to a number of user terminals. Typically, the cable headend provides the racing data with video signals on at least one television channel. Suitable approaches involve providing the racing data on a sideband or on a separate television channel.

If desired, the racing data may be distributed via satellite. With this approach, the racing data are provided within an available portion of the bandwidth of the television channel either in an available portion of the bandwidth of an analog television channel or as a portion of a digital television channel. Further, the racing data may be provided on a separate satellite channel or may be broadcast using a radio or television broadcast system.

Each user terminal receives the video signals and the racing data and separates out the racing data. Racing data are displayed on a monitor (preferably a conventional television monitor) using display and control circuitry. The racing data that may be displayed include odds, pools, and predicted and actual payoffs for selected wager types, races, and runners. The odds, pools, and payoffs for sophisticated wager types, such as exactas, trifectas, and daily doubles may by provided due to the relatively high bandwidth pathway that is made available between the data concentrator and each user terminal.

Another aspect of the invention relates to simultaneously displaying racing videos and racing data on a monitor. Racing data are provided from totalisators and from third party sources. A racing data interface processes the racing data and provides the processed data to a video and data distribution system. The racing video source provides racing videos to the video and data distribution system from a source of racing videos, such as live video feeds from racetracks.

The video and data distribution system may involve satellite distribution or distribution via a cable headend facility. Regardless of the medium over which the racing data and racing videos are distributed, the racing data are preferably provided with the racing videos on at least one television channel. One suitable approach for distribution of the racing data uses a frequency modulated carrier on a sideband of a television signal.

The racing data and racing videos are distributed to a number of user terminals. Preferably, the user terminals display the racing data and racing videos on a conventional television monitor.

The user can review the racing data at the user terminal in a variety of formats. For example, odds, pools, predicted payoffs, and actual payoffs can be displayed. Handicapping information can also be displayed. And additional information, such as news, weather, advertising, help, late changes/overweights, and scratches, etc. can be displayed. Based on this information, a user can select a desired racetrack or performance, which is a set of races at a particular track (i.e., a morning performance or afternoon performance). The user can also select a race, a wager type, wager amount, and one or more runners.

When a user has entered all of the data necessary to place a wager, the corresponding wager data are transmitted to a wagering data management system that preferably includes a totalisator for maintaining the user's wagering account. The wagering data management system adjusts the user's account based on the user's wagers. Typically, the user's account is debited when a wager is placed. If, following a race, a user's wager is successful, the wagering data management system credits the user's account accordingly.

Occasionally, the user may wish to transfer funds from a bank account into the wagering account at the wagering data management system. To do so, the user enters the amount to transfer and a personal identification code into the user terminal. This information is transmitted to an appropriate bank facility, which, after verifying the user's account information, authorizes the transfer of the selected amount of funds from the bank account into the wagering account. Alternatively, the user may place wagers directly against his regular bank account. A security measure that may be used, either in addition to requiring the personal identification code or as an alternative to the personal identification code is to use a physical key or access device, such as a smart card, magnetic stripe card, or electronic hardware key.

When the user desires to view the results of races that have been run, the user can place an order for a racing video of that race. The user terminal transmits the ordering information to, e.g., the video and data distribution center, which plays back the ordered racing video for the desired race. The user can also instruct the user terminal to trigger an alarm when an upcoming race is about to be run. Either an audible

tone or a video message may be used to alert the user of the racing video for the upcoming race. If the user wishes to record a racing video, then the user enters the necessary race information into the user terminal. The user terminal either programs a video recorder to record the desired race at a predetermined time, or directly actuates a video recorder to record the racing video when the appropriate time arrives.

BRIEF DESCRIPTION OF THE DRAWINGS

The above and other objects and advantages of the present invention will be apparent upon consideration of the following detailed description, taken in conjunction with the accompanying drawings, in which like reference characters refer to like parts throughout, and in which:

FIG. **1** is a block diagram of a wagering system constructed in accordance with the present invention;

FIG. **2** is a block diagram of a user terminal suitable for use with the wagering system of FIG. **1**;

FIGS. **3–7** are logic flow diagrams illustrating the operation of the wagering system of FIG. **1**;

FIGS. **8–28** are illustrative option menus and display screens suitable for use with the illustrative wagering system of FIG. **1**;

FIG. **29** is a block diagram of an alternative embodiment of a wagering system in accordance with the present invention;

FIG. **30** is a block diagram of a user terminal suitable for use with the wagering system of FIG. **29**;

FIGS. **31–34** are logic flow diagrams illustrating the operation of the wagering system of FIG. **29**; and

FIGS. **35–50** are illustrative option menus and display screens suitable for use with the illustrative wagering system of FIG. **29**.

DETAILED DESCRIPTION OF THE INVENTION

A schematic block diagram of a wagering system **100** constructed in accordance with the present invention is show in FIG. **1**. Wagering system **100** uses wagering machines known as "totalisators," such as totalisators **102**, **104**, **106**, and **108**, to generate wagering odds in realtime based on the wagers placed on racing events at various racetracks. Totalisators are available from companies such as Amtote International, Inc. of Hunt Valley, Md., Autotote Limited of Newark, Del., and United Tote Company of Shepherd, Mont. Typically, each racetrack has an installed totalisator for handling the wagering odds and information at that track. Thus, totalisators **102**, **104**, **106**, and **108** are generally each located at a separate racetrack. Totalisators are also capable of communicating data between one another.

For example, as shown in FIG. **1**, totalisators **102**, **104**, **106**, and **108** are interconnected by data lines **110**. Totalisators **102–108** communicate between one another using data lines **110** and a communication protocol known as the Intertote Track System Protocol (ITSP). The communication between totalisators **102–108** allows totalisators **102–108** to share pools, thereby allowing racing fans that interact with one totalisator to view odds and place wagers on races at other racetracks.

The odds and other racing data from each of the totalisators connected to totalisator **102** are provided to data concentrator **112**. Data concentrator **112** is a computer-based system that receives racing data from totalisator **102** and provides the data to a suitable data distribution system for providing the data to racing fans in their homes. Typical racing data received from totalisator **102** include the current race at each track, which races and tracks are open for wagering, the post times of each race, and the number of races associated with each track. Racing data from totalisator **102** also include the win, place and show "pool" totals for each runner (e.g., a horse) and the exacta, trifecta, and quinella payoff predictions and pool totals for every runner combination. Odds are provided for all races that have not started (i.e., those races for which wagering has not been closed). Totalisator **102** also provides the number of minutes remaining until post time for the current race at each track to data concentrator **112**.

Other racing data provided by totalisator **102** to data concentrator **112** include race results, such as the order-of-finish list for at least the first three positions and payoff values versus a standard wager amount for win, place, and show, for each associated combination of the finish list. Also provided are payoff values for the winning complex wager types, including exacta, trifecta, quinella, pick-n (where n is the number of races involved in the pick-n wager), and daily double. The payoff values may also be accompanied by a synopsis of the associated finish list.

Further racing data provided by totalisator **102** to data concentrator **112** include the number of runners in each race, the valid wager amounts accepted by totalisators **102–108**, and valid wager types accepted by totalisators **102–108**. Racing data provided by totalisator **102** also include a scratch list of those runners entered but removed from a race.

Preferably, additional "program information" (racing information typically provided in printed programs) may be provided from totalisator **102** to data concentrator **112**. Such program information may include early odds, early scratches, race descriptions (including the distance of each race and the race surface—grass, dirt, artificial turf, etc.), allowed class ratings (based on a fixed ratio of external criteria), purse value (payoff to winning runner), allowed age range of runners, and the allowed number of wins and starts for each runner.

In addition to receiving racing data from totalisator **102** at line **114**, data concentrator **112** preferably receives supplemental racing data from third party information sources, such as Axcis Pocket Information Network, Inc. of Santa Clara, Calif., at input **116**. Typical supplemental racing data include the post times of each race, jockey names, runner names, and the number of races associated with each track. Weather information is also available from third party data sources. For example, the weather for the city and state in which each racetrack is located can be obtained.

More detailed weather information, including track conditions, temperature, humidity, dewpoint, and a short status description of the current weather (sunny, raining, foggy, etc.) may also be provided. Some racing data, such as the data describing regional weather conditions may be widely available in an electronic format. Other racing data may need to be entered manually, via input **118**.

Data concentrator **112** processes the racing data received at inputs **114**, **116**, and **118** and assembles the data into a suitable data format for transmission to disribution facility **120**, which is preferably a cable headend. Transmission of the racing data between data concentrator **112** and distribution facility **120** may be via cable, satellite, or any suitable transmission medium with an adequate bandwidth to supply a large quantity of racing data in realtime.

Typically, large metropolitan cable television networks have at least several headend facilities. Television signals

are provided to home viewers from the headends, generally using fiber optic cable and coaxial cable, collectively referred to here as "cable." Television distribution to the home is also possible in a system in which headends or similar facilities capable of data transmission deliver television signals to user terminals **122** via satellite.

In wagering system **100**, racing data are provided from distribution facility **120** to user terminals **122** via a distribution network **124**, which uses either cable wired directly to the home, a system of home satellite receivers, or radio or television broadcasting equipment. An advantage of using cable, satellites, or broadcast systems in distribution network **124** is that video information along with large quantities of racing data may be supplied to a large array of user terminals **122** more economically than with other systems. Although racing data is preferably supplied to the user terminals using the same medium used for video transmissions, this need not be the case. For example, racing data could be broadcast over-the-air while video information is received by the user via cable or satellite. If desired, videos of races can be provided along with the racing data. Using this type of system, the user can receive the racing data continuously, without forcing the wagering system **100** to monopolize the user's telephone line.

User terminal **122**, which is preferably microprocessor-based, supports software capable of coordinating the receipt and display of racing data and the placing of wagers electronically. Preferably, user terminals **122** generate easy-to-read menus on displays **126**, which may be, for example, conventional television sets. User terminal **122** executes instructions that enable terminal **122** to process the racing data received from distribution facility **120** and display the data on display **126** in a suitable format. The user can interact with user terminal **122** using any suitable user interface, such as a keyboard, pointing device, or voice-actuated controller. Preferably, the user interacts with user terminal **122** using an infrared or other suitable type of wireless remote control.

In order to place wagers, a user typically establishes an account associated with a totalisator (e.g., at a particular racetrack). The user's account balance and other wagering transactional information is stored in the totalisator. Preferably, user terminal **122** includes suitable communication circuitry to establish a communications link with totalisator **102**. One suitable method of establishing such a link is to use modem communications between user terminal **122** and totalisator **102**. For example, telephone network **128** and telephone interface **130** support two-way communications between user terminal **122** and totalisator **102**. If a user desires to place a wager, the data necessary to execute the transaction are transmitted via network **128**. Telephone interface **130** processes the wager data so that the data may be received by totalisator **102**. For example, if many incoming signals are received at once, telephone interface **130** receives them in parallel. Typically, once the user places a wager the user's account at totalisator **102** is debited. If the user's wager pays off, the user's account at totalisator **102** is credited by the appropriate amount.

User terminal **122** is shown in more detail in FIG. **2**. Microprocessor **132** is connected to memory **134**—preferably a read-only memory (ROM)—and memory **136**—preferably a random-access memory (RAM) via bus **138**. Bus **138** is also used to interconnect microprocessor **132** and memory **134** and **136** with display and control circuitry **140**. Display and control circuitry **140** coordinates the operation of the various display, control, and communications peripherals of user terminal **122**. Memory **134** and memory **136** contain instructions that are executed by microprocessor **132**. Microprocessor **132** operates in conjunction with display and control circuitry **140** to direct the operation of user terminal **122**.

Racing data and video signals are received at input **142** of FM receiver/analog-to-digital converter **144**. The racing data are transmitted on an FM carrier in an open range within the bandwidth of the video signals. FM receiver/analog-to-digital converter **144** separates out the racing data signal and demodulates it to a digital format that is processed by display and control circuitry **140**. The video signals received at input **142** are passed to multiplexer **146**. When the user desires to view video programs corresponding to the video signals received at input **142**, multiplexer **146** is switched to allow the video signals on line **148** to pass to monitor **126** (FIG. **1**). The control signals used to switch multiplexer **146** may be provided by display and control circuitry **140** via line **152**. Preferably, monitor **126** (HG. **1**) is a conventional television set.

The racing data that are received by user terminal **122** are stored in memory **136**, so that microprocessor **132** can process this information as desired by the user. The user controls the functions of user terminal **122** via input interface **154**, which is preferably a combination of a remote control **156** and a receiver **158**. Based on user commands received via input interface **154**, display and control circuitry **140** displays various information on monitor **126** (FIG. **1**) using video generator **160** and display memory **162**. The information to be displayed on monitor **126** (FIG. **1**) is provided at output **164** of video generator **160**. Display and control circuitry **140** generates an appropriate control signal on line **152**, so that the output of video generator **160** is provided to monitor **126** (FIG. **1**) via multiplexer **146**.

User terminal **122** also has transaction data communication circuitry **166** provide a two-way communications link between user terminal **122** and totalisator **102** (FIG. **1**). Transaction data communication circuitry **164** may be based on any suitable communication circuitry such as conventional modem circuitry for communicating via telephone lines. If the distribution network **124** (FIG. **1**) supports two-way communications, then transmission and communication circuitry **164** may include appropriate back-haul circuitry to provide a communications link with totalisator **102** (FIG. **1**) via a return path over distribution network **124** (FIG. **1**) rather than over network **128** (FIG. **1**).

In order to place wagers, the user must typically supply a personal identification code to the totalisator **102** (FIG. **1**) at which the user maintains an account. The personal identification code is transmitted using the transaction data communication circuitry **166**. By transmitting the personal identification code to totalisator **102** (FIG. **1**) when placing a wager, the totalisator **102** (FIG. **1**) can ensure that the user's personnel identification code matches an authorized code, and can verify the user's account balance prior to authorizing the wager. As an added measure of security, user terminal **122** preferably also has a non-volatile storage device **169**, which is used to maintain a local account balance and which contains a user's personal identification code. Suitable non-volatile storage devices include magnetic stripe cards and electronic hardware keys. Physical keys can also be used to provide additional security, if desired.

Preferably, non-volatile storage device **169** includes a smart card interface **168** that accepts smart card **170**. Smart card interface **168** allows account and account verification information to be stored on smart card **170**. Smart card **170** must be inserted in smart card interface **168** in order to place

a wager. Thus, if a user removes the smart card **170**, no wagers can be placed against that user's account by a third party, even if the user's personal identification code is known by that party.

In operation, user terminal **122** displays various menus of options on monitor **126** (FIG. **1**). The menus can be invoked by pressing an appropriate "enter" button on remote control **156**. Remote control **156** also has cursor keys that allow the user to cursor forward and backward and up and down through the menus. In order to leave the system, the user presses an "exit" button on remote control **156**.

The logical flow of the operation of wagering system **100** (FIG. **1**) including menus and options provided by user terminal **122** (FIG. **2**) is summarized in FIGS. **3**–**7**. As shown in FIG. **3**, at step **172** the user selects between several available options: "today's race tracks," "account information," "news and information," and "bet on the next race." A menu **174** corresponding to step **172** is shown in FIG. **8**. As shown in FIG. **8**, menu **174** preferably contains corporate logo **176** and date and time information **178**. Menu options **180**, **182**, **184**, and **185** are preferably displayed in the center of screen **186**. To the left of menu options **180**, **182**, **184**, and **185**, are cursor boxes **186**, **188**, **190**, and **191**. In FIG. **8**, cursor **192** is positioned adjacent to the next available menu option—option **180**, thereby "highlighting" that option. When a user desires to select the highlighted option, the user presses "enter" or the "right" cursor key on remote control **156** (FIG. **1**). If the user wishes to select a different menu option, the user moves the cursor to the next lower or higher menu option on menu **174** using cursor up/down keys on remote control **156** (FIG. **2**).

As shown in FIG. **3**, if the user selects "today's race-tracks" (menu option **180** in FIG. **8**) at step **172**, the user may then select a desired racetrack at step **196**. A menu corresponding to step **196** is shown in FIG. **9**. Racetrack menu options **198**, **200**, and **202** are racetracks available for wagering. Preferably, the list of available racetracks is provided by distribution facility **120** (FIG. **1**) to user terminals **122** (FIG. **1**), so that by controlling this list it is possible to "black out" certain racetracks.

Cursor **192** is used to highlight the desired track. The menu option adjacent to cursor **192** is also preferably highlighted by changing the color etc. of the option. The next race available for wagering at each racetrack and its corresponding post time are preferably listed adjacent to each track name. For example, the next available race at the Pimlico racetrack is race **3**, which has a post time of 1:56. As with the available racetracks, the list of which races are scheduled is preferably provided to user terminals **122** (FIG. **1**) by distribution facility **120** (FIG. **1**). Accordingly, if it is desired to limit which races are available to the user, this may be done by making this selection at distribution facility **120**.

After selecting a track, such as Pimlico, at step **196** (FIG. **3**), the user selects a race at step **204** (FIG. **3**). The race selection menus **206** and **208** for the Pimlico racetrack are shown in FIGS. **10** and **11**. Preferably, the data in menus such as menus **206** and **208** and other menus/screens that are used to display racing data are periodically automatically updated (e.g., at least every 15 minutes) to reflect the most current racing data. To update the display automatically, user terminal **122** (FIG. **1**) may display racing data as it is received from distribution facility **120** (FIG. **1**) in realtime, or may update the display at predetermined time intervals, based on the most recently acquired data.

Menu **208** is illustrative of a type of menu that may be used whenever it is desired to display more information than fits easily onto a single screen. Races **1**–**8** are listed on menus **206** and **208**. As shown in FIG. **10**, the letter "F" is placed adjacent to races **1** and **2** to indicate that these races have been run and for which the results have been declared final. No wagers can be placed on these races. When menu **206** is displayed (at step **204** of FIG. **3**), cursor **192** is placed at a default position adjacent to race **3**, because that is the next race available for wagering. As shown in the upper left corner of menu **206**, an abbreviation of the racetrack (in this case "PIM" for Pimlico) is displayed to remind the user of the currently selected racetrack. A user selects a desired race by moving cursor **192** to a race and pressing "enter" or an equivalent action button on remote control **156** (FIG. **2**).

Returning to FIG. **3**, after the user has selected a race at step **204**, the user is presented with a menu of available options at step **212**. For example, the user can place a wager or view current odds/probables, handicapping data, race results, or weather. If the user chooses to place a wager, the viewer selects an amount to wager at step **214**. The amounts available for wagering are preferably transmitted to user terminals **122** (FIG. **1**) from distribution facility **120**, so that it is possible to limit which wagering amounts are available to the user as desired. Preferably, the user can select the wager amount using an interactive menu such as menu **216** shown in FIG. **12**. On the left of menu **216**, current odds **218** are listed for each of the runners (e.g., **1**–**9**). Typically, win odds are listed. Thus, as shown on menu **216**, the odds for runner **1** winning race **3** are 20 to 1.

The racetracks, races, wager types, wager amounts, and various other menu options that are available to the user at user terminal **122** (FIG. **1**) may be controlled from the distribution facility **120** (FIG. **1**). For example, the distribution facility **120** can limit the content of its transmissions to user terminals **122** (FIG. **1**), so that only certain features are available. If it is desired to black out a given racetrack, then the racing data (and any accompanying instructions to be executed by user terminal **122** of FIG. **1**) for that racetrack are not provided to user terminals **122**. With this approach, the menu options of user terminals **122** (FIG. **1**) may be configured on a system-wide basis.

If desired, user terminals **122** (FIG. **1**) may also be individually addressable, which allows distribution facility **120** (FIG. **1**) to provide different types of service to different sets of user terminals **122** (FIG. **1**) Any suitable addressing technique may be used. For example, an addressing technique similar to that used in conventional addressable cable converter units may be used. User terminals **122** (FIG. **1**) may be provided with preprogrammed authorization codes when they are manufactured or a user may be provided with an appropriate authorization code to enter into user terminal **122** (FIG. **1**) (e.g., using remote control **156** or smart card **170**). Distribution facility **120** (FIG. **1**) transmits the racing data and any instructions that are to be executed by microprocessor **132** and display and control circuitry **140** (FIG. **2**) in transmission blocks containing an authorization code. User terminals **122** (FIG. **1**) compare each incoming transmission block with their authorization code. When the code matches, racing and other data within the transmission block are accepted for use by that user terminal **122** (FIG. **1**).

Individual addressability allows selected subsets of user terminals **122** (FIG. **1**) to be permitted to have access to certain racetracks, sets of races, wager types, or wager amounts. Because distribution facility **120** (FIG. **1**) can provide preselected features to selected subsets of users, it is possible to provide various tiers of service, etc.

As shown in FIG. **12**, on the right of menu **216** is an abbreviation **220** of the currently selected racetrack (i.e.,

"PIM" for Pimlico). Current race **222** is also listed (i.e., race **3**). Information such as the current time and the time remaining to post time is displayed in box **225**. Preferably, the post time blinks or otherwise changes its appearance within a certain predefined time window prior to a race, so as to provide a visual clue that the start of the race is approaching.

When first presented to the user, menu **216** has a highlighted portion **224** (e.g., S5). The user selects the desired wager amount by moving highlighted portion **224** using the up/down and left/right cursor keys of remote control **156** (FIG. **2**). When highlighted portion **224** rests on the desired wager amount, the user presses the enter key on remote control **156** (FIG. **2**). Highlighted portion **224** is then placed on the done box **226**. If the user is ready to proceed, the user presses the enter key on remote control **156** (FIG. **2**). If, instead, the user wishes to return to menus **206** and **208** (FIGS. **10** and **11**), which correspond to step **212** (FIG. **3**), then the user highlights and selects go back box **228**.

As shown in FIG. **3**, following selection of the wager amount at step **214**, the user selects a desired type of wager at step **230**. A typical wager type selection menu **232** is shown in FIG. **13**. Additional wager types can be supported by providing additional wager selections on wager selection menu **232**. Preferably, the wager types available at selection menu **232** are determined by distribution facility **120** (FIG. **1**). Thus, the wager types available to the user may be controlled by limiting what information is transmitted from distribution facility **120** (FIG. **1**) to user terminals **122** regarding wager types. Highlighted portion **234** initially rests on one of the wager types, such as WPS, which stands for win, place, and show. Other available wager types include, but are not limited to, WIN (win), PLC (place), SHW (show), WP (win-place), WS (win-show), and EXA (exacta). Suitable wager types also include trifecta, quinella, daily double, and pick-n type wagers (where n is a value from, e.g., 3 to 10).

Preferably, menu **232** is similar in appearance and layout to other menus, such as menu **216** (FIG. **12**), so that the user is presented with a fairly uniform interface. For example, odds are shown at the left of menu **232**, just as they are shown at the left of menu **216** (FIG. **12**). Similarly, the racetrack abbreviation, race number, current time, and time remaining to post are shown on the right of menu **232** in the same way that this information is displayed in menu **216** (FIG. **12**). By changing the overall layout of the menus as little as possible from one screen to the next, viewer confusion is minimized and screen storage requirements for the user terminal **122** are reduced. An additional item in menu **232**, which is not shown in the wager amount menu **216** of FIG. **12**, is selected wager amount **236** (S5 in the example of FIG. **13**).

As shown in FIG. **14**, the user selects the desired bet amount by moving highlighted portion **234** to the desired wager type and pressing the enter key on remote control **156** (FIG. **2**). In FIG. **14**, an exacta wager was chosen by selecting EXA box **238**. The selected wager type may be indicated in any suitable fashion, for example, by changing the color of the wager type box. Further, as shown in FIG. **14**, code **240** corresponding to the selected wager type can be displayed. After an exacta wager (or any multi-leg single race wager) is selected, highlighted portion **234** is either automatically placed on BOX **242** or, preferably, onto DONE **243** with the ability to move the cursor onto BOX **242** to allow a user to place a box bet (any multi-leg wager where the first leg or list of runners is used for all legs of the wager). Placing a box bet is a simplified method of placing a wager using the same runner list for each leg of a multiple leg wager.

After selecting the wager type at step **230** of FIG. **3**, the user selects runners at step **244**. As shown in FIG. **15**, for an exacta wager the user selects one or more runners for first leg **246** and second leg **248**. If more than one runner is selected per leg, the number of possible exacta wager combinations is automatically calculated and the total cost of the wager updated accordingly at box **250**. When all desired runners have been selected, the user selects done box **252**, which causes the system to proceed to step **254** in FIG. **3**.

In step **254** (FIG. **3**), wager queue menu **256** is displayed, as shown in FIG. **16**. Each wager is summarized on a line adjacent to a wager number **258**. In the example shown in FIG. **16**, the first wager is a an exacta wager on the third race at Pimlico. Shown at the bottom of menu **256** are the menu options send/delete, more bets same race, more bets other race, and main menu. These menu options are displayed at step **258** (FIG. **3**) when the wager queue is not full. Typically, the wager queue can contain up to five wagers. Before additional wagers can be added, the wagers in the queue must be sent to the racetrack. If the wager queue is full following step **254** (FIG. **3**), then the menu choices of delete a wager, send wagers, duplicate a wager, and main menu are displayed at step **260**. The menu options made available at step **260** are limited by the state of the queue. For example if the queue is full, the option "duplicate a wager" will not be available, etc. A typical menu **262** on which these options are displayed is shown in FIG. **17**.

The menu options listed in menus **256** and **262** (FIGS. **16** and **17**) allow the user to modify the wagers listed in the queue, make additional bets, etc. For example, as shown in FIG. **3**, if at step **258** the user selects "more bets same race," the user is returned to step **214**, at which a new wager amount can be selected. The user can then proceed through steps **230**, **244**, **254**, etc. as described above. If at step **258** the user selects "more bets other race," the user is returned to step **204**, at which a new track may be selected. Another option at step **258** is to return to the main menu. If "main menu" is selected, the user is returned to step **172**.

If the user selects "send/delete" at step **258** then the system proceeds to step **260** (menu **262** in FIG. **17**). At step **260**, the user has the option of deleting a wager that is no longer desired. For example, if the user wishes to delete wager **1**, the user moves the highlighted portion of the menu to wager **1** and presses the enter key on remote control **156** (FIG. **2**), whereupon the information for wager **1** is removed from menu **262** (FIG. **17**). If "duplicate a wager" is selected, the user can make a copy of a wager, which appears on the next available wager line. Thus, if wagers **1** and **2** are filled, the user can position the highlighted portion of menu **262** (FIG. **17**) adjacent to wager **1** and press enter. Wager **1** will then be duplicated as wager **3**.

In order to place wagers, the wager information entered onto menu **262** must be sent to totalisator **102** (FIG. **1**) via network **128** (FIG. **1**). At the same time that a wager is sent, the user must transmit his personal identification code to allow the totalisator **102** (FIG. **1**) to verify the status of the account against which the wager is to be placed. Totalisator **102** adjusts the user's account to reflect the results of the wager. If sufficient funds exist in the account, and if the wagering information is otherwise satisfactory, totalisator **102** (FIG. **1**) will accept the wager and will typically debit the account. If the wager pays off, the account will be credited by the appropriate amount.

When a user is ready to send a wager to totalisator **102** (FIG. **1**), the user selects "send wagers" from menu **262** in

FIG. **17**. Preferably, if no smart card is present, a message appears on monitor **126** (FIG. **1**) instructing the user to insert smart card **170** (FIG. **2**). The user is next instructed to enter his personal identification code using remote control **156** (FIG. **2**). The personal identification code is compared to a prestored personal identification code on smart card **170** (FIG. **2**). If, from comparison of the entered personal identification code to the personal identification code stored on card **170** (FIG. **2**), it is determined that the user is authorized to use the account, then the transaction data necessary to place the wager with totalisator **102** (FIG. **1**) are sent to totalisator **102** (FIG. **1**). During the process of sending the wager information to totalisator **102** (FIG. **1**), the user is preferably provided with messages on monitor **126** (FIG. **1**) that indicate when the system is dialing and sending the data, and when it has been confirmed that the wager has been sent.

If, instead of selecting "place wager" at step **212**, the user selects "current odds/probables," the system proceeds to step **264**, as shown in FIG. **4**. At step **264**, the user is presented with a menu listing which odds and statistics are available for viewing. If the user selects "odds/pools" at step **264**, the user is passed to step **266**, in which odds and pools are preferably displayed in a format shown in FIG. **18**. In chart **268**, the win odds for each runner are displayed adjacent to the number of that runner. Also listed in chart **268** are the dollar amounts of each pool of placed wagers for each bet type (win, place, or show). At the bottom of chart **268** is a total of all pools for each wager type: win, place, and show.

Wager odds for wager types other than win odds can also be shown. For example, show or place odds can be displayed. With previously known off-track terminals it has not been possible to display show and place odds. Accordingly, if a home racing fan desired such information, he would need to make calculations by hand. In contrast, with the present invention, user terminal **122** processes the racing data provided by totalisator **102** (FIG. **1**), so that odds for many wager types are available. The user can therefore quickly and accurately review these odds interactively in the home.

Information regarding exacta, trifecta, and other complex wager pool totals and payoff values for the various wager combinations may be selected at step **264** (FIG. **4**). Any suitable display format may be used to show the desired information. A typical exacta pays screen **272** is shown in FIG. **19**. Win odds are listed for each runner and predicted exacta payoffs are listed for each of the possible exacta combinations of runners. Thus, if there are nine runners there are typically nine screens **272**. The first screen **272** lists the payoffs for runner **1** as a first place finisher (**1** and x), where x is each of runners **2–9**. Also listed are the payoffs for runner **1** as a second place finisher (x and **1**). Subsequent screens are used to provide information for other runners. For example, the second screen **272** lists the payoffs for runner **2** as a first and second place finisher. Another item listed on screen **272** is exacta pool **274**.

The odds and payoffs for other sophisticated wager types, such as trifectas, daily doubles, pick three, pick four, etc. can be listed in the same fashion if desired. Due to the limited nature of previously available off-track betting terminals, it has not been possible to determine odds and payoff information for many sophisticated wager types. For example, it has not previously been possible to determine odds for various combinations of runners within the complex wager types. With the present invention, complex wagering information may be calculated and displayed by user terminal **122** (FIG. **2**). Because it has not previously been possible to display such detailed information using an off-track terminal, such information has either been completely unavailable or has only been available to racing fans who have traveled to the racetrack or to off-track betting establishments.

In addition, an advantage of the present system is that the user can interactively control the display of the odds and payoffs screens for the various wager types. For example, the user can move forward or backward through the wager information screens, such as screen **272** (FIG. **19**), which shows the predicted payoff amounts if a particular runner combination wins an exacta wager. Previously known methods of displaying such information involve providing a non-interactive scrolling list of the information, e.g., on a monitor at a racetrack. But with that method it is necessary to wait until the information one wishes to view is presented on the monitor. In contrast, with the present invention the user can interactively advance forward and backwards through the screens such as exacta pays screens **272** as desired.

Returning to step **212** (FIG. **3**), another menu option that can be selected by the user is to view handicapping data. If "handicapping data" is selected at step **212** (FIG. **3**) then the user is presented with a menu of available handicapping data as shown at step **276** in FIG. **5**. Preferably, the menu options available at step **276** include: snapshot power ratings, speed-class ratings, pace ratings, and jockey/trainer. If "snapshot power ratings" are selected at step **276**, power ratings are displayed at step **277** (FIG. **5**) on screen **278**, as shown in FIG. **20**. At the top of power ratings screen **278** is a banner including information such as race number **280** (e.g., race **1**), race distance/surface **282** (e.g., 5 Furlongs on dirt), amount claimed **284**, class rating **286**, and runner age **288**.

Below this banner, more detailed information pertaining to each runner is preferably listed. For example, runner name **290**, number of days off since the last race **292**, wins/starts for the selected surface and distance category **294**, morning odds **296**, and power rating **298**. The information necessary to make up screen **278** may be provided to the wagering system **100** (FIG. **1**) via input **116** (FIG. **1**).

In addition to displaying snapshot power ratings, a user can choose to display speed/class ratings at step **276** (FIG. **5**). If "speed/class ratings" is selected at step **276** (FIG. **5**), then at step **300** (FIG. **5**) screen **302** of speed/class ratings is displayed, as shown in FIG. **21**. Screen **302** preferably contains information banner **304**, as in screen **278** (FIG. **20**). Also in screen **302** are runner name **306**, speed rating **308**, speed rating for this distance and track surface **310**, highest speed rating for this distance and track surface **312**, class rating **314**, and class rating of last race **316**.

Another option is available if the user selects "pace ratings" at step **276** (FIG. **5**). Selecting "pace ratings" takes the user to step **318** (FIG. **5**), at which pace ratings screen **320** is displayed, as shown in FIG. **22**. As with screen **278** (FIG. **20**) and screen **280** (FIG. **21**), screen **320** contains handicapping data for each runner. Preferably, screen **320** contains typical position at early call **322**, typical position at middle call **324**, typical position at finish **326**, and number of races in calculation **328**.

A further display of handicapping data is available if the user selects "jockey/trainer" at step **276** (FIG. **5**). If jockey/trainer is selected, control passes to step **330** (FIG. **5**), at which screen **332** is displayed, as shown in FIG. **23**. Screen **323** contains handicapping information about the jockeys and trainers for each runner. Typically, such information includes jockey and trainer names **334** and information

about recent race statistics **336**. Other jockey/trainer information that can be provided includes information relating to jockey changes and overweights for each runner.

Returning to FIG. **3**, another option available at step **212** is to display race results. If the user selects "results" at step **212**, the results of the race selected at step **204** are displayed on the display **126** (FIG. **1**) at step **338**. One suitable format for displaying race results is shown in FIG. **24**. Runner numbers **340** are displayed as well as payoffs for a standard wager (e.g., $2) for win, place, and show bets. If desired, results can also be displayed for the more sophisticated wager types such as exactas, trifectas, daily doubles, pick three, pick four, etc.

The present invention allows the user to interactively control the display of the race results screens. For example, the user can select a track and page through the results for the various races at that track. Preferably, the user can use the cursor keys on remote control **156** (FIG. **2**) to move between the race results screens for various races.

Another option available at step **212** in FIG. **3** is for the user to view weather and track conditions for a selected racetrack. If the user selects "weather/conditions" at step **212**, weather information is interactively presented at step **342**. The weather for the city and state in which the selected racetrack is located is preferably displayed, as is more detailed weather information, including track conditions, temperature, humidity, dewpoint, and a short status description of the current weather (sunny, raining, foggy, etc.).

If the user selects "account information" (menu option **182** in FIG. **8**) at the initial menu displayed at step **172** (FIG. **3**), the menu options "bet queue," "account information," and "transaction history" are displayed at step **344**, as shown in FIG. **6**. If "bet queue" is selected at step **344**, the queue is viewed at step **346** and control then passes to step **260** (FIG. **3**). At step **260**, the user can select from the menu choices "delete a wager," "send wagers," "duplicate a wager," and "main menu," as described above.

If "transaction history" is selected at step **344** in FIG. **6**, the user terminal **122** (FIG. **2**) preferably retrieves information concerning recent transactions such as wagers placed and the results of these wagers from smart card **170** (FIG. **2**) at step **348**. If desired, this information can be retrieved remotely, from totalisator **102**. Using the retrieved information, the user's transaction history is displayed at step **350**. After the user is finished reviewing the recent transaction history, the user is returned to step **172** (FIG. **3**), where the initial menu options are displayed.

If the user selects "account balance" at step **344**, at step **351**, the user selects whether to retrieve his account balance remotely, from totalisator **102** (FIG. **1**), or locally at terminal **122**, from smart card **170**. If the user selects "remote" at step **351**, then the user enters his personal identification code at step **352**. User terminal **122** (FIG. **2**) then obtains current account information from totalisator **102** (FIG. **1**) and displays this information at step **354**. If the user selects "smart card" at step **351**, then the user enters his personal identification code at step **353**. User terminal **122** (FIG. **2**) then obtains current account information from smart card **170** (FIG. **2**) and displays this information at step **355**. Preferably, information retrieved from smart card **170** (such as account balances) is for informational purposes only. No wagers can be authorized solely through the account information on smart card **170** (FIG. **2**). This prevents unauthorized wagering if the card is tampered with. After the user is finished reviewing the account balance at step **354** or step **355**, the user is returned to step **172** (FIG. **3**), where the initial menu options are displayed.

The benefit of storing account and transaction history information locally on smart card **170** (FIG. **2**) is that it is not necessary to communicate with totalisator **102** (FIG. **1**) each time it is desired to review such information. Because the user does not need to communicate with totalisator **102** (FIG. **1**) for routine transaction history and account balance queries, the user avoids any fees that may be associated with such queries. The user also reduces the frequency with which he needs to use his telephone line. Further, data corresponding to additional wagering transactions, such as recent wagering activity, may be stored on smart card **170** (FIG. **1**).

The account and transactional information for each user is preferably stored on his individual smart card **170** (FIG. **2**). This allows the user to visit other homes in which there are user terminals **122** (FIG. **1**), without losing ready access to his account information. Alternatively, the account and transactional information can be stored in a suitable memory device in user terminal **122** (FIGS. **1** and **2**).

Another menu option available at step **172** of FIG. **3** is the option to view news and information. If "news and information" (menu option **184** in FIG. **8**) is selected at step **172**, a submenu of news and information options is displayed at step **356**, as shown in FIG. **7**. The illustrative menu options displayed at step **356** include the option of viewing information about schedule times for racing video simulcasts available to the user. Racing simulcasts may be available via satellite, cable, broadcast, or other suitable video transmission medium. Typically, not all of the races run at the various racetracks are simulcast on television. Certain racetracks may not wish to create a disincentive for racing fans in the area to visit the track in person. For other racetracks there may not be sufficient demand to warrant the effort of televising all of the races. And because the post times of races are typically determined locally by the management of the racetrack, they may be subject to last minute changes or unforseen delays. For each of these reasons, it is difficult or impossible for a user to accurately determine which races are currently available via simulcast. Accordingly, with the present invention, when the user selects "simulcast schedule" at step **356**, a current schedule listing the races available via simulcast is displayed.

Other menu options available at step **356** include commercial advertisements. As shown in FIG. **7**, menu option **358** is an advertisement called "Laurel on the Air," which could be, for example, local advertising for upcoming events on television or radio relating to the Laurel racetrack. An illustrative listing for Laurel on the air is shown in FIG. **25**.

Menu option **360**, entitled "handicapping seminar" could be, for example, an advertisement for an upcoming seminar on handicapping techniques to be presented at a particular racetrack. An illustrative handicapping screen is shown in FIG. **26**.

Menu option help **362** allows the system to display help information. For example, explanations of how to use the terminal **122**, how to place certain types of wagers, or how to handicap effectively may be provided. A submenu that may be provided after menu option help **362** has been selected includes menu options "using the system," "how to bet," and "handicapping information." FIG. **27** shows a screen that can be displayed if "using the system" is selected. FIG. **28** shows a screen that can be displayed if "how to bet" is selected followed by information on "win, place, and show" bets. Information on additional wager types is preferably available by pressing an advance or equivalent cursor on remote control **156** (FIG. **2**). If "handi-

capping information" is selected from the submenu, then descriptions of the various types of handicapping information available (see, e.g., FIGS. **20–23**) are provided. The menu option **364** (FIG. **7**) entitled "other" allows additional information to be provided.

The news and information menu options available at step **356** are illustrative only. As explained in connection with descriptions of further embodiments of the present invention, additional features may be added if desired, such as the ability to add video information to the services described above.

If desired, "hot" buttons may be used to provide shortcuts through the menu hierarchy of FIGS. **3–7**. For example, a hot button **185** labeled "bet on the next race" may be provided as menu option **185** in FIG. **8**. If the user selects this option at step **172** (FIG. **3**), the user terminal **122** (FIG. **2**) determines which upcoming race is the next race available for wagering. The user terminal **122** (FIG. **2**) then presents the user with the option of selecting the wager amount for that race at step **214** (FIG. **3**). Hot button **185** therefore allows the user to bypass selection steps **196**, **204**, and **212** (FIG. **3**), which the user would otherwise need to pass through. Preferably, any hot button arrangement of the present invention allows the user to bypass one or more selection steps (also called "menu layers"). Hot buttons thus allow quicker movement though various layers of menus than would otherwise be possible (e.g., using a conventional tree-type menu structure without hot buttons).

Further aspects of the present invention are illustrated in connection with wagering system **366**, shown in FIG. **29**. Many features of wagering system **336** may be provided using an arrangement similar to wagering system **100** (FIG. **1**), if desired. Wagering system **366** has a video and data distribution system **368** for distributing racing data racing videos to user terminals **370**. The video and data distribution system **368** may be based on any suitable conventional distribution technology, such as satellite transmission, cable television transmission, or television broadcasting. Video and data distribution system **368** receives racing data from racing data interface **372**. This signal feed typically has a significantly lower data-rate requirement than live video signals. Accordingly, the racing data transmitted from racing data interface **372** to video and data distribution system **368** may use any of a number of available signal distribution technologies. For example, leased telephone lines may be provided between racing data interface **372** and video and data distribution system **368**. Alternatively, racing data may be transmitted by satellite at this stage.

Racing videos, which are received from racing video source **374**, preferably use a high-capacity transmission medium such as satellite transmission or cable transmission for at least part of the signal pathway between the point of origination of the video signals and video and data distribution system **368**. For example, one suitable source of racing videos is the simulcast transmission of video signals from racetracks. These racing videos can be transmitted by a combination of cable and satellite to a centralized racing video source **374**, from which the videos may be transmitted to video and data distribution system **368** via satellite. Alternatively, the racing video may be archived on video tape or another video storage medium, so that the racing video source **374** should include suitable video playback equipment (not shown). Archived racing videos can be played back according to a predetermined schedule, or according to viewer demand.

Regardless of the source of the racing video signals provided at racing video source **374**, and regardless of the medium used to transmit these videos from racing video source **374** to video and data distribution system **368**, the racing videos are preferably available for the user to watch at home while the user simultaneously has access to the racing data provided by racing data interface **372**. Because real time racing video clips require the full bandwidth of a television channel (although the video could be compressed somewhat using conventional data compression techniques), data and video link **376** between video and data distribution system **368** and user terminals **370** must at least have the capacity of a single television channel. Preferably, the racing videos are distributed over a dedicated racing channel. Racing data may be distributed using any suitable data distribution technique, such as transmission over a sideband or during the vertical blanking interval of the dedicated channel.

Video and data distribution system **368** includes a cable headend facility, satellite facility, or broadcast facility that preferably supplies a full range of conventional television channels to the user in addition to the capability of providing a dedicated racing channel to the user. When the user desires to watch television, the user can tune to one of these channels. The user can tune to a television channel using a user terminal **370** in conjunction with a monitor **378**, which is preferably a conventional television set. If user terminal **370** does not contain a tuner capable of tuning to all of the available channels, or if it is desired to bypass the terminal **370** for other reasons, the user can watch television on monitor **378** directly, provided that monitor **378** includes a television tuner.

Thus, a number of alternative approaches can be used to provide racing videos and racing data to the user. However, a common element to all of these approaches is that video and data distribution system **368** be capable of delivering racing video signals from racing video source **374** to user terminals **370** in realtime. The video and data distribution system **368** also delivers racing data to user terminals **370**. Thus, wagering system **366** avoids the shortcomings of previously known systems in which no racing videos could be provided to user-controllable terminals and in which limited racing data were at best provided to off-track terminals via telephone lines.

Racing data are provided by a number of sources, including wagering data management system **380**. Wagering and data management facility **380** may be a totalisator such as totalisators **382**, or may be a stand-alone computer system capable of communicating with totalisators **382**. If desired, wagering data management facility **380** may include an accounting capability for managing user accounts.

The type of racing data provided to racing data interface **372** by wagering and data management facility **380** typically includes the current race at each track, which races and tracks are open for wagering, the post times of each race, and the number of races associated with each track. Racing data also include the win, place and show "pool" totals, exacta, trifecta, quinella and other wager payoff predictions, and the actual odds for the current race at each track, as well as the "morning line" odds for any future race. In addition, racing data typically include the number of minutes remaining until post time for the current race at each track.

Racing data provided by wagering data management facility **380** also include race results, such as actual payoff values versus a standard wager amount for win, place, and show wagers. Also provided are actual payoff values for the winning complex wager types, including exacta, trifecta, quinella, pick-n (where "n" is the number of races involved

in the pick-n wager), and daily double. Payoff values may also be accompanied by a synopsis of the associated finish list.

In addition, pools, payoffs, and odds may be provided for other wager types, such as omni bets, superfectas, and double-triple bets.

The racing data from wagering data management facility **380** further include program information including the number of runners in each race, valid wager amounts and types accepted by racetracks, scratch lists, distances of each race, and race surfaces. Program information also includes race classification information, the purse, the allowed age range of runners, and the allowed number of wins and or starts for each runner. Racing data from wagering data management facility **380** are delivered to racing data interface **372** via data link **384**, which may be any suitable data transmission medium, such as a leased telephone line, cable, satellite, etc.

Racing data interface **372** also receives racing data via supplemental input **386** and manual input **388**. The racing data received at inputs **386** and **388** include racing data from third party information sources such as Axcis Pocket Information Network, Inc. of Santa Clara, Calif. Such third party racing data typically include post times, the number of races associated with each track and other information that typically is only provided via a printed racing program. Weather information, such as track conditions, temperature, humidity, dewpoint, and a short status description of the current weather (sunny, raining, foggy, etc.) may also be provided via inputs **386** or **388**.

Wagering data management facility **380** preferably includes the capability of either maintaining a user's account or communicating with a user's account located at one of totalisators **382**. Totalisators communicate with one another via the well-known Intertote Track System Protocol (ITSP). Racing fans using user terminals **370**, communicate with wagering data management facility **380** via communication lines **390**, network **392** and transaction data interface **394**.

In accordance with one aspect of the present invention, communication lines **390** are telephone lines, network **392** is a telephone network, and transaction data interface **394** is an automated modem system for receiving incoming transaction data from communication devices contained within user terminals **370**. Link **396**, which provides a communication pathway between transaction data interface **394** and wagering and data management facility **380** may be any suitable type of communication link, for example, 30 RS-232 data lines. Although a telephone link may be used to provide two-way communications for transaction data (wagers placed, account information, etc.), any suitable communication pathway between user terminals **370** and wagering data management facility **380** may be used. For example, transaction data may be relayed to and from user terminals **370** via data and video link **376**, video and data distribution system **368**, and communication link **398**.

In addition to the various elements described above, wagering system **366** may optionally include a subscriber management/customer service facility ("subscriber facility") **400**, which is a computer-based facility for coordinating bank transfers and merchandise orders, handling paperwork required by tax and other regulations, and for supplying marketing information to third parties.

User terminals **370** are linked to subscriber facility **400** via communication lines **390**, network **392**, and communication line **402**, which may be, for example, a leased telephone line. Subscriber facility **400** is linked to wagering data management facility **380** via communication line **404**. Additional communication links are formed between subscriber facility **400** and racetrack **406**, merchandise fulfillment house **408**, production facility **410**, bank facility **412**, and third parties **414**. These links may be formed using any suitable communications medium, such as telephone lines.

Subscriber facility **400** provides wagering system **366** with the capability to implement a variety of marketing and customer service related activities. For example, when the user desires to transfer bank account funds to his wagering account, a transfer authorization can be sent from user terminal **370** to subscriber facility **400** via communication line **402**, where, after suitable processing, the transfer request is sent to bank facility **412**. Bank facility **412** may be at the user's bank, or an affiliated bank connected to a banking network capable of authorizing the requested transfer. After bank facility **412** approves the requested transfer of funds, subscriber facility **400** transmits suitable fund transfer instructions to wagering data management facility **380**.

Another useful feature that may be implemented using subscriber facility **400** is allowing the user to place merchandise orders from the home. Commercial advertising may be provided with wagering system **366**. For example, video advertising clips may be displayed simultaneously with racing videos etc. If a menu option indicates that merchandise, such as racing memorabilia, promotional materials, collectibles, etc. is available, then following step **356** (FIG. 7) the user may interactively place an order for merchandise using wagering system **366**. If desired, the user may place merchandise orders against funds located in the wagering account located at wagering data management facility **380** or at the user's account at bank facility **412**. Alternatively, the user may place orders using a credit card.

Generally, the information necessary to consummate an on-line purchase of merchandise is well known. This information is collected and disseminated to the appropriate parties by subscriber facility **400**. For example, funds verification may be performed by communicating with wagering data management facility **380** or bank facility **412**. Merchandise orders may be placed with the racetrack **406** that offered the merchandise, or with merchandise fulfillment house **408**.

Subscriber facility **400** may also be used to facilitate monitoring of the usage of user terminals **122**. In order to improve the performance of wagering system **366**, it may be desirable to determine precisely how various users interact with the various menus etc. that are provided by user terminal **122**. User terminals **122** can be programmed to monitor the way in which users interact with the menu structure implemented on user terminals **122**. For example, user terminals **122** can monitor how long each user spends at each screen, etc. Periodically, this information may be collected by subscriber facility **400** via communication line **402**. This information can be used to improve the performance of the menu structure implemented on user terminals **122**, or may be used for marketing purposes (e.g., for direct marketing).

Production facility **410** may be used to satisfy regulatory paperwork requirements for tax and other purposes. In addition, additional or replacement smart cards or user terminals **370** may be ordered from production facility **410**.

If desired, a user's personal preferences, such as wagering habits, betting preferences, merchandise orders, etc. may be supplied to third parties **414**. The user's personal preference data may be transmitted from user terminals **370** to wagering data management facility **380** during the placing of wagers.

Later, wagering data management facility **380** transmits the personal preference data to subscriber facility **400**, from where the data may be provided to, e.g., third parties **414**.

A typical user terminal **370** is shown in FIG. **30**. User terminal **370** has display and processing circuitry **416**, which receives racing data and realtime video signals including videos from racing video source **374** via video input **418**. The user enters commands with user input interface **420**, which may be any suitable input interface, such as a remote control, keyboard, a conventional voice-actuated controller system, etc. Display and processing circuitry **416**, which is preferably microprocessor-based, coordinates the display of the racing data and videos on monitor **378** and the recording of videos on video recorder **424**. User terminal **370** also has transaction data communication circuitry **422** (e.g., modem circuitry) for communicating transaction data to wagering data management facility **380** (FIG. **29**) and subscriber facility **400** (FIG. **29**).

As is well known, set-top converters, video cassette recorders, audio/video receivers, and other audio/video equipment may be interconnected in a variety of ways. For example, some audio/video components receive a full range of television channels on a radio frequency (RF) input line, and output a selected channel or other video signal on an RF channel such as channel **2**, **3**, or **4**. An output provided on an RF channel must be processed by a television tuner tuned to that channel. Accordingly, this type of arrangement is suitable for audio/video equipment that is connected to an audio/video component having a television tuner (e.g., a conventional television set). Some audio/video equipment provides direct video and audio signal outputs, which may be received by a monitor or other audio/video component that does not have a television tuner.

In accordance with the present invention, the racing videos and data received via input **418** are typically received along with a complete range of television channels. In one suitable arrangement, the racing videos are provided on one or more dedicated channels and the racing data can be provided in an available region of bandwidth within these channels (e.g., on a frequency modulated sideband). If the racing videos and data are provided over a digital video channel (e.g., as used with certain television satellite systems), the video signals occupy one portion of the digital signal and the racing data another. Display and processing circuitry **416** contains circuitry for separating out the racing data from the video signals. Racing data are processed by display and processing circuitry **416** so that various menus of options and data may be displayed. Racing videos and the menu displays can be provided to monitor **378** via RF output **426** or video and audio output **428**.

Because cable channels are often scrambled, display and processing circuitry **416** may also contain suitable circuitry for descrambling the cable (or satellite) television channels to which the user subscribes. Alternatively, the user may attach a conventional set-top cable converter unit to their television, for use in conjunction with user terminal **370**.

Further, various different connections are possible with video recorder **424**. If video recorder **424** is a conventional video cassette recorder, video output **430** may be an RF output or a video and audio output. If video recorder **424** only contains recording components and not a television tuner, then an RF output would not be suitable. In that case, video output **430** is preferably a video/audio output rather than an RF output.

Commands from display and processing circuitry **416** are provided to video recorder **424** over communication path **432**. Communication path **432** may be a direct electrical connection to video recorder **424** or may use an infrared output circuit coupled to the infrared input of video recorder **424**. If desired, video recorder **424** may be provided with the capability of providing as an output video recorder status data regarding the state of video recorder **424** (e.g., tape inserted, play/record confirmed, index data on tape read/confirmed, etc.). The video recorder status data may be provided to display and processing circuitry **416** over communication path **432**. Video recorder **424** may also be provided with a dedicated set-top converter box (such as shown connected to monitor **378** in FIG. **30**). The set-top converter box may be provided downstream from the other components of user terminal **370** or may be provided as a completely separate input.

In the illustrative example shown in FIG. **30**, set-top box **434** is provided midway between display and processing circuitry **416** and monitor **378**. With this arrangement, line **436** is preferably an RF line. Another way in which television signals may be provided to monitor **378** is to provide additional RF or video/audio input **440** to monitor **378**. If desired, descrambling on this line may be performed by set-top box **442**. Switching between the desired audio/video and RF inputs to monitor **378** may be performed by circuitry within monitor **378**, if desired.

If an audio/video receiver is also connected to the user's home system, further options are available. For example, the audio/video receiver (not shown) may be used to switch the various audio and video signals shown in FIG. **30**. RF video signals may be switched using suitable RF switching equipment.

Thus, there are numerous suitable ways in which to arrange and interconnect various home audio/video components and user terminal **370**. The particular arrangement chosen for user terminal **370** is not limited to any one setup. For exaunple, monitor **378** may be a conventional television with an integral television tuner or may be any other suitable display monitor. Video recorder **424** may be a conventional video cassette recorder or may contain a status data output in addition to the components necessary to perform video recording and playback. One or more set-top boxes **442** or **434** may be provided. An audio/video receiver or RF signal switching and splitting circuitry may be connected to user terminal **370**. Any of these components may be provided as a separate audio/video component or may be made integral with user terminal **370**.

Wagering system **366** (FIG. **29**) may be used to provide a variety of interactive wagering features. In accordance with one aspect of the present invention, when the user invokes wagering system **366** (e.g., by entering an appropriate command via user input interface **420** (FIG. **30**), the user is presented with an initial racetrack selection menu at step **444**, as shown in FIG. **31**. A suitable format for the racetrack selection menu is a list highlighted to show the current selection. Another suitable format for the racetrack selection menu is map menu **446**, shown in FIG. **35**. With this approach, the various available racetracks are displayed on a map, e.g., of the United States. The currently selected racetrack (Hollywood park in FIG. **35**) is highlighted. Preferably, the user can select a racetrack using cursor keys to move up/down and right/left until the highlighted portion is positioned on the desired racetrack. The user may then press enter to select that track. As shown in FIG. **35**, map menu **446** preferably has go back button **447**. If the user selects go back button **447**, the user is returned to the previous menu. In addition to serving as a menu for track selections, a format similar to that of map menu **446** may be

used to allow the user to make other selections, such as when choosing a region of the country from which racing or other information (e.g., commercial advertising) is desired. Map menu **446** may be highlighted using any suitable technique, e.g., using an icon.

After a racetrack has been selected at step **444** of FIG. **31**, the user decides whether to select a wager amount or make a menu choice at step **448**. The term "menu choice" used in connection with FIGS. **31–34** includes: "other track," "other race," "information," and "account." In accordance with the present invention, menu choices other track **450**, other race **452**, information **454**, and account **456** are displayed on a screen **458** of mixed text and video, as shown in FIG. **36**. Preferably, menu options appear at the bottom of screen **458**. The currently selected racetrack **460** (Churchill Downs), race no. **462** (race 2) and time until post **464** (nine minutes) appear in a banner **466** at the top of screen **458**. The default for the currently selected race is the next race scheduled to be run at the selected racetrack. Current odds or other useful racing information items appear in box **468**.

In addition, a realtime racing video **470** is simultaneously displayed in box **472**. Preferably, racing video **470** is a simulcast from the selected racetrack corresponding to the next scheduled race. Typically, race previews are shown prior to each race. These previews may contain views of the racetrack, fans, and runners, interviews with jockeys and trainers, and commentary. At post time, the video of the race itself is shown. If no racing videos are available at the selected track, box **472** can contain a video clip of races at other tracks or can contain advertising information, etc.

The arrangement of screen **458** allows the user to gauge how much time is left to place a wager by viewing the time until post **464**, and viewing racing video **470**. Current odds may be readily reviewed at box **468**. With screen **458**, the user can watch racing previews and race videos in realtime, while wagering on races interactively.

In step **448** of FIG. **31**, the user selects a bet amount by moving highlighted portion **474** (FIG. **36**) to the desired dollar amount ($5 in FIG. **36**). With any screen such as screen **458** (FIG. **36**), the user can make a desired selection using input interface **420** (FIG. **30**). For example, if user input interface **420** (FIG. **30**) includes an infrared remote control and receiver, the user can press a "select" or "enter" key on the remote control to make a selection.

After selecting a bet amount at step **448** of FIG. **31**, the user is passed to step **476**, in which a bet type or a menu choice is selected. The bet type can be selected using a screen such as screen **478** in FIG. **37**. As shown in FIG. **37**, many of the display features of screen **458** (FIG. **36**) remain unchanged as the user moves from step **448** (FIG. **31**) to step **476** (FIG. **31**). For example, banner **456** is unaffected, as are menu choices other track **450**, other race **452**, information **454**, and account **456**. Box **468** (which contains odds) and box **472** (which contains racing video **470**) are also unchanged from step **448** (FIG. **31**) to step **476** (FIG. **31**). An advantage of providing screens that do not change excessively from step to step is that the user is less likely to be confused, and can find menu options more readily with this approach.

The user selects a bet type such as a win bet by moving highlighted portion **480** to the win bet and selecting it, e.g., by entering the appropriate command with user input interface **420** (FIG. **30**).

After selecting the bet type at step **476** of FIG. **31**, the user is presented with a runner selection menu at step **482**. A suitable screen format for the runner menu is given by screen **484** in FIG. **38**. Having selected the number of runners either required or allowed for the selected bet type, the system proceeds to step **486**, at which the user is presented with the menu options place wager **488**, another amount **490**, and cancel **492** in addition to the menu choices **450**, **452**, **454**, and **456** listed at the bottom of screen **494** in FIG. **39**. Also displayed on screen **494** are wager number **496**, wager amount **498**, bet type **500** for the wager selected in steps **448**, **476**, and **482**.

If the option place wager **488** is selected, wager transaction data corresponding to the selected wager is transmitted from user terminal **370** (FIG. **29**) to wagering data management facility **380** (FIG. **29**) at step **510** (FIG. **31**).

Following a brief screen in which the user is alerted that the wagering transaction is being sent (e.g., with the message "sending wager"), a confirmatory message, such as message **504** is displayed on screen **506**, as shown in FIG. **40**. Preferably, as the simulcast of the selected race approaches post time, the screen format assumes the larger, nearly full-screensize of screen **506**. The racing video is shown in the central portion of screen **506**. A relatively small portion **508** of the screen **506** is used to display the selected bet amount, bet type, and runner(s).

If the user selects another amount **490** (FIG. **39**) at step **486** of FIG. **31**, then the user can select a new bet amount at step **512** (using a menu such as screen **458** of FIG. **36**). Selecting cancel **492** (FIG. **39**) returns the user to step **448**.

The results of selecting one of the "menu choices" (other track, other race, information, or account) from step **448**, **476**, **482**, or **486**, are shown in FIG. **32**. If "other track" is selected at step **514**, then the user is presented with the menu choices "track" and "menu choice" at step **516**. A suitable menu format for selecting a new track is a format such as used for screen **518** in FIG. **41**. If a "menu choice" is made, the user returns to step **514**.

If "account" is selected by the user at step **514**, the user is presented with a menu such as screen **520** of FIG. **42**, which prompts the user to enter his personal identification code. The user enters the personal identification code at step **522** (FIG. **32**) with user input interface **420** (FIG. **30**). During the process of entering the personal identification code, boxes **521** change color to indicate when each code element (e.g. digit) is entered. After the personal identification code has been entered, screen **524** is displayed, as shown in FIG. **43**. In screen **524**, the user's account balance **526** is shown (as obtained, e.g., from the wagering data management facility **380** of FIG. **29**). Also displayed is a menu of fund transfer amounts **528**. At step **530** (FIG. **32**) the user selects the desired amount of funds to transfer from bank facility **412** (FIG. **29**) to his account at wagering data management facility **380** (FIG. **29**) by highlighting menu option transfer funds **532** (FIG. **43**). Following this selection, a confirmatory message, such as "bank transfer" is displayed. Account balance **526** is updated to reflect the new balance, once the transfer is complete.

If the menu option "information" is selected at step **514** in FIG. **32**, the user is given the opportunity to select from the menu options "racing information," "other," and "menu choice" at step **534**. If "racing information" is selected, then the user is presented with a list of menu options at step **536**. A suitable menu format for displaying the step **536** menu options is screen **538** (FIG. **44**), which allows the user to highlight the desired menu option. Four options are listed in the information category portion of screen **538** (FIG. **44**). To see additional listings, the user cursors down or up to scroll or page through the listing.

If the option "late changes/overweights" is selected at step **536** of FIG. **32**, then a list of late changes and overweights is displayed at step **538**. Scratches are displayed at step **540**, when "scratches" is the selected menu option. At step **542**, weather information is displayed when that option is selected at step **536**. Racing highlights are displayed at step **544** if "highlights" is selected at step **536**. Odds are displayed at step **546** if the menu option selected at step **536** is "odds." In addition, scratches are preferably noted on the screens that contain runner numbers (e.g., by the notation "scratch" adjacent to the appropriate runner number). Odds may be displayed using the traditional fractional format (e.g., 9/5) or may be displayed using a percentile format (e.g., 5.0%), as shown in FIG. **45**.

Another category of racing information that may be viewed is handicapping information. To view handicapping information, the user selects "handicapping" at step **536**. Making the selection "handicapping" moves the user to step **548** in FIG. **33**, at which the user chooses between viewing handicapping data and creating a personal power rating. If the user selects "view handicapping data," various handicapping data screens are displayed, showing, for example, snapshot power ratings, speed/class ratings, pace ratings, and jockey/trainer information at step **550**.

If "personal power rating" is selected at step **548** (FIG. **33**), the user is presented with an opportunity to create his own personal power rating, by entering weights for various handicapping categories. As shown in FIG. **46**, a menu of options is preferably displayed using a screen format such as used for screen **552**. Handicapping categories include, but are not limited to, speed **554**, breeding **556**, in-the-money **558**, and track condition **560**. The current odds (e.g., the win odds) for each runner may also be included as a handicapping category, if desired. Weights are entered by moving a highlighted portion of screen **552** to the desired weight and selecting the highlighted weight with user input interface **420** (FIG. **30**). The desired weight for the speed category is selected at step **562** (FIG. **33**). The weights for breeding, in-the-money and track condition are entered at steps **564**, **566**, and **568** (FIG. **33**), respectively. The weights chosen on screen **552** of FIG. **46** are: speed **4**, breeding **2**, in-the-money **5**, and track condition **3**.

After all weights have been entered, the personal power ratings are displayed at step **570** (FIG. **33**). Any suitable display format may be used to display the ratings. For example, the ratings may be displayed numerically, using a bar graph, a pie chart or other graphical display. As shown in FIG. **47**, one suitable display is horizontal graph **572**. Runners are listed numerically on the left side of graph **572**. The corresponding results of the personal power rating selections made in steps **562**, **564**, **566**, and **568** (FIG. **33**) are shown numerically on the right side of graph **572**. Also shown—in the center of graph **572**—are runner icons **574**, each horizontally located at a distance from the left edge of graph **572** that is representative of the numerical personal power rating result. After the personal power ratings are displayed at step **570**, the system returns to step **548** (when instructed by the user).

User terminal **370** (FIG. **30**) performs the calculations necessary to determine the personal power ratings based on the racing data received from racing data interface **372** (FIG. **29**) and the selected personal power rating weights. Any suitable method of calculating the power ratings may be used, such as multiplying the weights by a numerical value representative of the runner's strength in the respective categories. For example, in the speed category, the weight of 4 selected in FIG. **46** could be multiplied by the runner's percentile ranking in average speed in its most recent races. Alternatively, a predetermined speed power rating could be used. Although screen **552** (FIG. **46**) depicts four personal power rating categories, any number of categories may be used, limited only by the amount of statistical racing data available from racing data interface **372** (FIG. **29**).

Returning to FIG. **32**, if the menu option "other" is selected at step **534**, then the user is presented with menu options "racing simulcast schedule," "miscellaneous advertising," "help," and "questionnaire" at step **576**. A schedule of which races are being video-simulcast is displayed if "racing simulcast schedule" is selected. Preferably, a user can select from the displayed list of simulcast races. When a particular race is selected from those displayed at step **576**, user terminal **122** (FIG. **29**) returns the user to step **448** at FIG. **31**, where the user is provided with an opportunity to place a wager on the selected race.

If "miscellaneous advertising" is selected at step **576**, advertising information is displayed. Help information is displayed if "help" is selected. Because user terminal **370** (FIG. **30**) is capable of handling video signals, the advertising information that is provided at step **576** can contain video clips in addition to text information. For example, racing data interface **372** (FIG. **29**), racing video source **374** (FIG. **29**) or other suitable advertising source may transmit compressed video clips to user terminal **370** of FIG. **30**, where they are stored on local mass storage device **578** (FIG. **3**) (e.g., a hard disk drive). When advertising, help, or any other information is selected that would benefit from a video presentation, the compressed video signal stored on local mass storage device **578** (FIG. **30**) is played back using display and processing circuitry **416** (FIG. **30**).

Another menu option that may be selected at step **576** (FIG. **32**) is "questionnaire." When this selection is made, user terminals **122** provide an interactive questionnaire on the monitor **378**, to which the user may respond, if interested. A typical use for such questionnaires would be to facilitate user feedback. For example, questionnaires may be provided that ask the user which particular services of wagering system **366** (FIG. **1**) are of greatest interest, etc. When the questionnaire is completed, the results of the questionnaires may be transmitted to subscriber facility **400** (FIG. **29**) using transaction data communications circuitry **422** (FIG. **30**) and communication line **402** (FIG. **29**).

As described above, a "menu choice" option at step **514** (FIG. **32**) is "other track." The selection of another racetrack is illustrated in FIG. **48**, in which the racetrack Hollywood Park has been selected. When a new racetrack is selected, the previously selected racetrack **460** (e.g., Churchill Downs in FIG. **36**) is replaced with the currently selected racetrack **580**. In addition, the currently selected race **582** is automatically updated to reflect the next currently scheduled race to be run at the currently selected racetrack. As shown in FIG **48**, the next race scheduled at Hollywood Park is race **3**. The time until post **584** is also automatically updated upon entering the screen **586** to correspond to the next currently scheduled race. Also automatically updated are odds **590** and racing video **592**.

If it is desired to change to another race from a screen such as screen **586**, which displays the menu choices "other track," "other race," "information," and "account," the user highlights portion **594** of screen **586** corresponding to menu option "other race" at step **514** (FIG. **32**). Selecting "other race" at step **514** (FIG. **32**) takes the user to step **596** in FIG. **34**. A suitable screen for displaying the menu options available at step **596** is screen **598**, shown in FIG. **49**.

As shown in FIG. **49**, a number of viewing options are presented for each race, such as "results," "alert," and "tape/VCR." For races that have been run, the appropriate option is "results," which allows a user to watch an earlier race. If the user selects "results" at step **596** of FIG. **34**, the user is presented with the menu option "watch the race" at step **600**. A suitable screen for presenting this option to the user is screen **602** of FIG. **50**. If the user decides to watch the race and makes the menu selection "watch the race" at step **600** (FIG. **34**), a video of the race is displayed at step **602** (FIG. **34**) and, if desired, the user may be billed a transaction fee for making this selection. Transaction fees may be levied using any suitable technique. For example, user terminal **370** can maintain a running log of transaction fees charged the user for making selections such as "watch the race," etc. Periodically, this log may be transferred to subscriber facility **400**, which compiles a bill for the user, or which debits the user's account (at bank **412** or wagering data management facility **380**). The user may also be charged transaction fees for each wager placed at wagering data management facility **380**. This type of transaction fee is preferably levied at the time at which the wager is placed, e.g., by debiting the user's account (at wagering data management facility **380** or bank **412**) by the transaction fee in addition to the wager amount.

In order to allow the user to watch the results of previously run races, video clips of the races must be stored in a suitable facility and delivered to the user on demand. A variety of arrangements for accomplishing this task are possible. For example, as shown in FIG. **29**, a user may place an order for a race video from user terminal **370** via communication line **390**. The order is received by transaction data interface **394**, which transmits the order and any necessary account verification information to wagering data management system **380**. Race video order information can be transmitted to video and data distribution system **368** from wagering data management facility **380** via communication link **398**. If it is desired to impose a charge for ordering videos of race results, wagering data management system **380** can debit the user's account accordingly when the order is received.

Video and data distribution system **368** can contain a high capacity storage medium, suitable for recording races as they are received from racing video source **374**. In order to minimize the amount of storage necessary in video and data distribution system, it may be desired to record only the video of the race, and not any race previews. It may also be desired to digitally compress the videos.

Various approaches may be used for delivering the race videos that are stored at video and data distribution system **368** to user terminal **370**. For example, the sideband or other portion of the bandwidth used by the wagering system **366** to deliver racing data to user terminals **370** may be sufficiently large to support the delivery of compressed video clips in addition to the racing data. If a compressed video clip contains encoded information, only authorized users who selected to watch the race results video will receive that video clip. A similar approach is to send the requested video information over an available video channel to authorized users. A pay-per-view cable channel is also a suitable pathway for providing racing videos to user terminal **370**.

Regardless of how user terminal **370** receives the requested prerecorded race video clip, at step **602** (FIG. **34**), user terminal **370** displays the video on monitor **378**. If necessary, user terminal **370** decompresses any compressed video information.

Different options are available for races that have not yet been run. For example, the user can select "alert" at step **596** (FIG. **34**) to be alerted (e.g., by an audible tone and/or a visual prompt on the display screen) that the race is about to be run. If alert is selected at step **596** (FIG. **34**), user terminal **370** (FIG. **30**) triggers an alarm and displays the race video when appropriate at step **604** (FIG. **34**). The user can also select "tape/VCR" at step **596** (FIG. **34**). If "tape/VCR" is selected at step **596** (FIG. **34**), at step **606** (FIG. **34**) user terminal **370** (FIG. **30**) programs video recorder **424** (FIG **30**) with the appropriate recording information or actuates video recorder **424** (FIG. **30**) at the time of the selected race. Thus, selecting "tape/VCR" allows the selected race to be recorded. When desired, the user can review the race videos recorded by video recorder **424** (FIG. **30**). If video recorder **424** (FIG. **30**) is capable of transmitting data such as indexing data to user terminal **370** (FIG. **30**), user terminal **370** (FIG. **30**) can coordinate the playback of race videos.

Any suitable display can be used to present the user with the menu options of step **596** (FIG. **34**). In the example of screen **598**, the options available for each race appear in bold type, whereas unavailable options appear only faintly. For example, race **1** and race **2** have already been run. Accordingly, results **608** and **610** appear in bold type. Races **3** and **4** have not yet been run so alerts **612** and **614** and tape/VCR **616** and **618** appear in bold.

One skilled in the art will appreciate that the present invention may be practiced by other than the described embodiments, which are presented for purposes of illustration and not of limitation, and the present invention is limited only by the claims that follow.

What is claimed is:

1. A method for interactive wagering on races with a user terminal that is remote from any racetrack, comprising:

allowing a user at the user terminal to access racing data over a communications path on races that have not been run and for which wagers may be placed;

using the user terminal to allow the user to electronically manipulate the racing data to evaluate the possible outcome of a given race that has not been run; and

allowing the user to place a wager with the user terminal on the given race that has not been run.

2. The method defined in claim **1** further comprising using the user terminal to allow the user to evaluate the possible winner of the given race by electronically manipulating the racing data.

3. The method defined in claim **1** further comprising using the user terminal to allow the user to enter weights that are applied to the racing data when the user electronically manipulates the racing data to evaluate the possible outcome of the race.

4. The method defined in claim **1** further comprising using the user terminal to present the user with an opportunity to create a personal power rating for runners in the given one of the races that has not been run.

5. The method defined in claim **4** further comprising displaying the personal power ratings numerically.

6. The method defined in claim **4** further comprising displaying the personal power ratings in a graph.

7. The method defined in claim **1** wherein the accessed racing data is displayed on a monitor connected to the user terminal.

8. The method defined in claim **1** wherein the electronically manipulated racing data is displayed on a monitor connected to the user terminal.

9. The method defined in claim **8** wherein the monitor is a television set having a tuner for tuning to a desired television channel.

10. The method defined in claim 1 wherein the racing data includes handicapping data.

11. The method defined in claim 1 further comprising displaying a video of the given race using the user terminal.

12. The method defined in claim 1 wherein at least two of the races that have not been run are from separate racetracks.

13. The method defined in claim 1 further comprising displaying a menu that allows the user to enter or select weights assigned to the racing data.

14. The method defined in claim 13 wherein the menu allows the user to enter or select a weight assigned to track conditions.

15. The method defined in claim 13 wherein the menu allows the user to enter or select a weight assigned to in-the-money.

16. The method defined in claim 13 further comprising using the user terminal to calculate a personal power rating based on the assigned weights to evaluate the possible outcome of the given race.

17. The method defined in claim 1 further comprising using the user terminal to display a simulcast schedule of races.

18. An off-track wagering system for interactively wagering on races that is remote from any racetrack, comprising:

a user terminal for allowing a user to access racing data on races that have not been run and for which wagers may be placed, wherein the user is allowed to electronically manipulate the racing data with the user terminal to evaluate a possible outcome of a given race that has not been run, and wherein the user terminal allows a user to place a wager on the given race that has not been run; and

a video and data distribution facility for providing the racing data to the user terminal.

19. The system defined in claim 18 wherein the accessed data on races is displayed on a monitor connected to the user terminal.

20. The system defined in claim 19 wherein the monitor is a television set having a tuner for tuning to a desired television channel.

21. The system defined in claim 18 further comprising a processor in the user terminal for manipulating the racing data.

22. The system defined in claim 18 wherein the user terminal allows the user to enter or select weights that are applied to the racing data when the racing data is electronically manipulated.

23. The system defined in claim 18 wherein the user terminal is used to display a video of the given race.

24. The system defined in claim 18 wherein the video and data distribution facility is a satellite broadcast facility.

25. The system defined in claim 18 wherein the video and data distribution facility is a cable headend facility.

26. The system defined in claim 18 further comprising a telephone network for transmitting and receiving transaction data related to a wager.

27. The system defined in claim 18 wherein the video and data distribution facility is configured to provide racing videos to the user terminal.

28. The system defined in claim 27 wherein the user terminal is configured to display the racing videos to the user.

29. A user terminal for use in a user's home that allows the user to place a wager on a race that has not been run, comprising:

a receiver that receives racing data; and

a processor that presents an interactive wagering interface on a monitor, wherein the interactive wagering interface allows the user to place wagers and allows the user to electronically manipulate the racing data to evaluate the possible outcome of a given race.

30. The user terminal defined in claim 29 further comprising memory for storing the racing data.

31. The user terminal defined in claim 29 wherein the interactive wagering interface allows the user to electronically manipulate the racing data to evaluate the possible winner of the given race.

32. The user terminal defined in claim 29 wherein the interactive wagering interface allows the user to enter or select weights that are applied to the racing data when the racing data is electronically manipulated.

33. The user terminal defined in claim 29 wherein the interactive wagering interface allows the user to electronically manipulate the racing data to create a personal power rating for runners in the given race.

34. The user terminal defined in claim 33 wherein the interactive wagering interface displays the personal power ratings numerically.

35. The user terminal defined in claim 33 wherein the interactive wagering interface displays the personal power ratings in a graphs.

36. The user terminal defined in claim 29 wherein the receiver receives racing videos and wherein the processor displays the racing videos on the monitor.

* * * * *

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 6,099,409
DATED : August 8, 2000
INVENTOR(S) : Mark A. Brenner et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Title page,
Item [56], **References Cited**, FOREIGN PATENT DOCUMENTS, "2 229 565" should read as -- 2 229 565 A -- and "2 300 535" should read as -- 2 300 535 A --.
OTHER PUBLICATIONS, "Auto Tote" should read as -- Autotote --.

Column 1,
Line 65, remove "of the";

Column 5,
Line 41, change "show" to -- shown --;

Column 7,
Line 56, insert -- , -- after "wager";

Column 8,
Line 54, change "personnel" to -- personal --;

Column 20,
Line 25, insert -- , -- after "videos";

Column 22,
Line 59, change "park" to -- Park --;

Column 24,
Line 20, change "screensize" to -- screen size --.

Signed and Sealed this

Twenty-sixth Day of November, 2002

Attest:

Attesting Officer

JAMES E. ROGAN
Director of the United States Patent and Trademark Office

EVIDENCE APPENDIX F

COPY OF HEDGES ET AL. U.S. PATENT NO. 4,467,424

United States Patent [19]

Hedges et al.

[11] **Patent Number: 4,467,424**

[45] **Date of Patent: * Aug. 21, 1984**

[54] **REMOTE GAMING SYSTEM**

[76] Inventors: **Richard A. Hedges**, 130 Montecito, Oakland, Calif. 94610; **David L. Shockley**, 340 Dorantes, San Francisco, Calif. 94116; **Stanley C. Fralick**, 21476 Sara Hills Ct., Saratoga, Calif. 95070; **Paul H. Kane**, 10471 Scenic Cir., Cupertino, Calif. 95014

[*] Notice: The portion of the term of this patent subsequent to Jul. 13, 1999 has been disclaimed.

[21] Appl. No.: **395,229**

[22] Filed: **Jul. 6, 1982**

Related U.S. Application Data

[63] Continuation of Ser. No. 104,275, Dec. 17, 1979, Pat. No. 4,339,798.

[51] **Int. Cl.**[3] **G06F 15/28**

[52] **U.S. Cl.** ..... **364/412**; 273/138 A; 340/323 R

[58] **Field of Search** ..... 364/410, 412, 900, 521; 273/138 A, 138 R, 142 D; 377/5; 340/323

[56] **References Cited**

U.S. PATENT DOCUMENTS

3,786,234 1/1974 Trent et al. 364/412
3,810,627 5/1974 Levy ..... 273/138 A
3,876,208 4/1975 Wächtler et al. ..... 273/138 A
4,108,361 8/1978 Krause 364/412

OTHER PUBLICATIONS

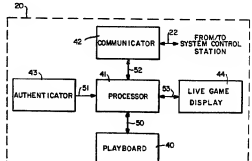
"Play TV Roulette-Win $1, $10, $100"; Advertisement-1971.

Primary Examiner—Errol A. Krass
Attorney, Agent, or Firm—Townsend & Townsend

[57] **ABSTRACT**

A remote gaming system for use with a wagering or gambling establishment such as a casino to enable a player's participation in a selected one of a plurality of wagering games from a remote location. The system includes a croupier station, a credit station and a player station remotely located from the croupier station and the credit station. The player station includes a live game display for displaying a selected one of a plurality of games being played at the croupier station, such as craps, roulette or keno. The player station includes a changeable playboard for displaying a selected one of a plurality of wagering possibilities corresponding to a selected one of the plurality of games being played and for displaying the results of the game played at the croupier station. The player station also includes a microprocessor for controlling the operation of the live game display and the changeable playboard.

14 Claims, 19 Drawing Figures



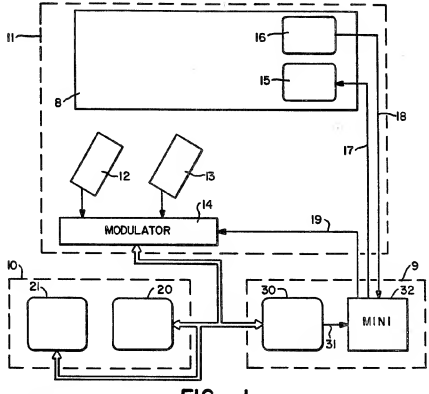

11
16
15
8
18
17
12
13
14
MODULATOR
19
10
9
21
20
30
32
MINI
31

FIG.—1

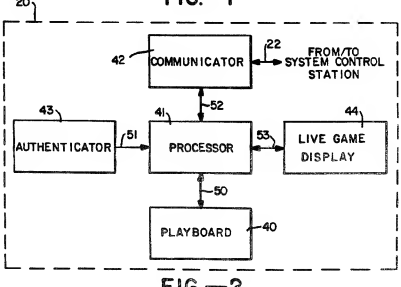

20
42
COMMUNICATOR
22
FROM/TO SYSTEM CONTROL STATION
52
43
41
44
AUTHENTICATOR
51
PROCESSOR
53
LIVE GAME DISPLAY
50
PLAYBOARD
40

FIG.—2

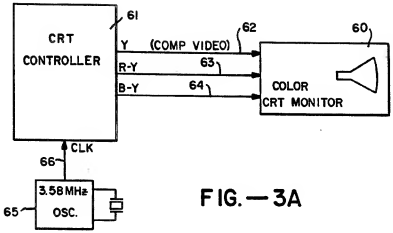

61
CRT
CONTROLLER
Y (COMP VIDEO)
62
60
R-Y
63
B-Y
64
COLOR
CRT MONITOR
CLK
66
3.58MHz
OSC.
65

FIG.—3A

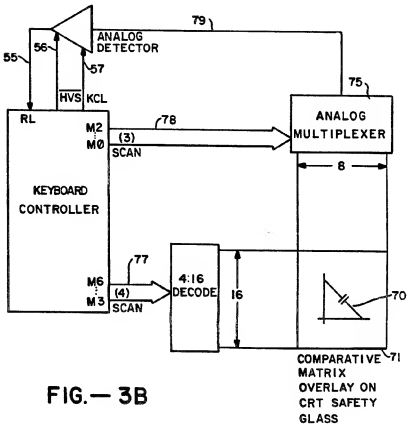

79
ANALOG
DETECTOR
55
56
57
75
HVS
KCL
RL
M2
M0
78
(3)
SCAN
ANALOG
MULTIPLEXER
8
KEYBOARD
CONTROLLER
77
M6
M3
(4)
SCAN
4:16
DECODE
16
70
COMPARATIVE
MATRIX
OVERLAY ON
CRT SAFETY
GLASS
71

FIG.—3B

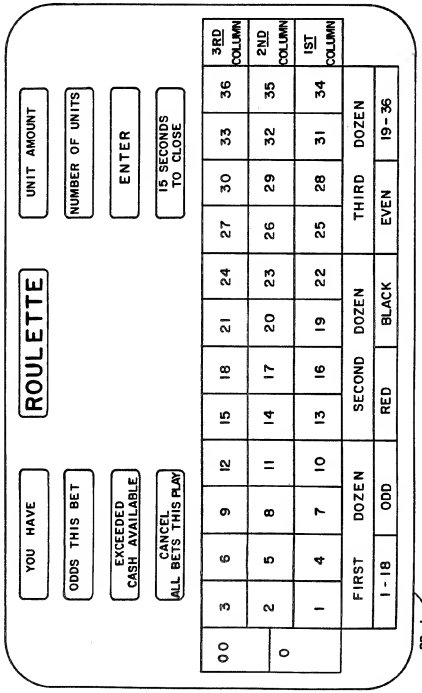

ROULETTE
YOU HAVE
ODDS THIS BET
EXCEEDED CASH AVAILABLE
CANCEL ALL BETS THIS PLAY
UNIT AMOUNT
NUMBER OF UNITS
ENTER
15 SECONDS TO CLOSE
00
0
3 6 9 12 15 18 21 24 27 30 33 36 3RD COLUMN
2 5 8 11 14 17 20 23 26 29 32 35 2ND COLUMN
1 4 7 10 13 16 19 22 25 28 31 34 1ST COLUMN
FIRST DOZEN
SECOND DOZEN
THIRD DOZEN
1-18
ODD
RED
BLACK
EVEN
19-36
20-1

FIG.—4

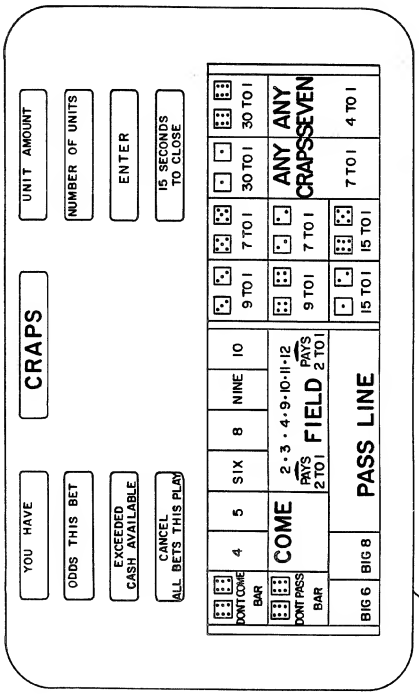

YOU HAVE
CRAPS
UNIT AMOUNT
ODDS THIS BET
NUMBER OF UNITS
EXCEEDED CASH AVAILABLE
ENTER
CANCEL ALL BETS THIS PLAY
15 SECONDS TO CLOSE
DONT COME BAR
4
5
SIX
8
NINE
10
9 TO 1
7 TO 1
30 TO 1
30 TO 1
DONT PASS BAR
COME
PAYS 2 TO 1
2 · 3 · 4 · 9 · 10 · 11 · 12
FIELD
PAYS 2 TO 1
9 TO 1
7 TO 1
ANY CRAPS
ANY SEVEN
BIG 6
BIG 8
PASS LINE
15 TO 1
15 TO 1
7 TO 1
4 TO 1
20-2

FIG. — 5

YOU HAVE
KENO
UNIT AMOUNT
ODDS THIS BET
NUMBER OF UNITS
EXCEEDED CASH AVAILABLE
ENTER
CANCEL ALL BETS THIS PLAY
15 SECONDS TO CLOSE
1 2 3 4 5 6 7 8 9 10
11 12 13 14 15 16 17 18 19 20
21 22 23 24 25 26 27 28 29 30
31 32 33 34 35 36 37 38 39 40
41 42 43 44 45 46 47 48 49 50
51 52 53 54 55 56 57 58 59 60
61 62 63 64 65 66 67 68 69 70
71 72 73 74 75 76 77 78 79 80
20-3

FIG. —6

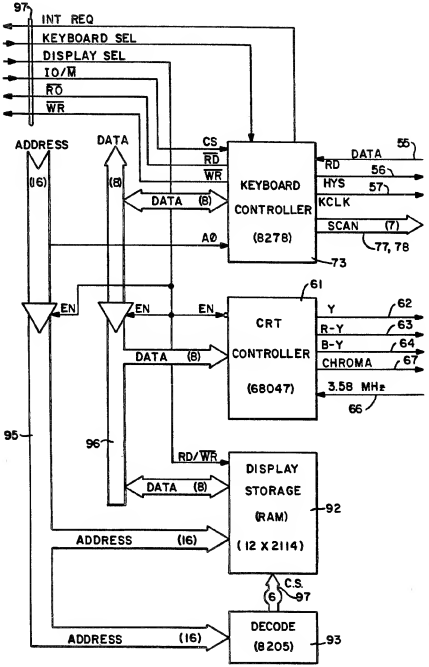

97
INT REQ
KEYBOARD SEL
DISPLAY SEL
IO/M
RD
WR
ADDRESS
(16)
DATA
(8)
CS
RD
WR
DATA (8)
KEYBOARD CONTROLLER (8278)
A0
DATA
RD
HYS
KCLK
SCAN (7)
55
56
57
77, 78
73
EN
EN
EN
DATA (8)
CRT CONTROLLER (68047)
61
Y
R-Y
B-Y
CHROMA
3.58 MHz
62
63
64
67
66
95
96
RD/WR
DATA (8)
DISPLAY STORAGE (RAM) (12 X 2114)
92
ADDRESS (16)
C.S.
(6)
97
DECODE (8205)
ADDRESS (16)
93

FIG.-7

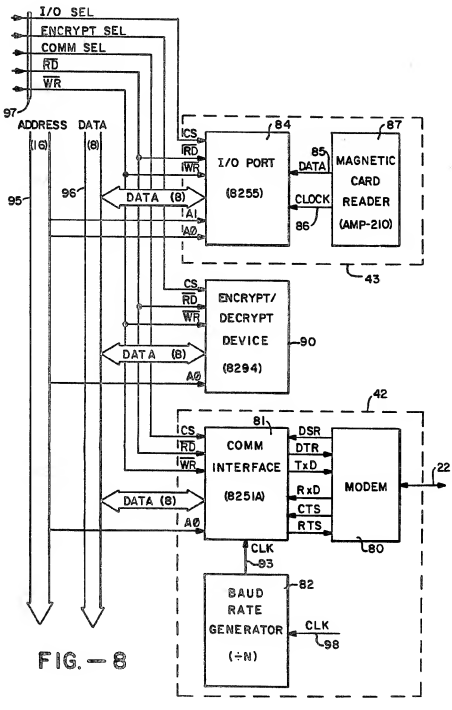

I/O SEL
ENCRYPT SEL
COMM SEL
RD
WR
97
ADDRESS (16)
DATA (8)
95
96
84
87
I/O PORT (8255)
MAGNETIC CARD READER (AMP-210)
85
DATA
CLOCK
86
43
ENCRYPT/ DECRYPT DEVICE (8294)
90
42
81
COMM INTERFACE (8251A)
MODEM
22
80
DSR
DTR
TxD
RxD
CTS
RTS
CLK
83
82
BAUD RATE GENERATOR (÷N)
98

FIG. — 8

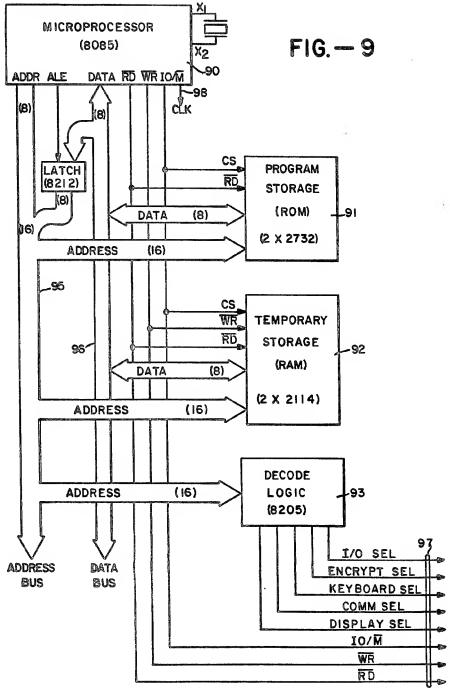

MICROPROCESSOR
(8085)
X1
X2
90
ADDR ALE DATA RD WR IO/M
98
CLK
(8)
(8)
LATCH
(8212)
(8)
96
CS
RD
PROGRAM
STORAGE
(ROM)
91
DATA (8)
(2 X 2732)
ADDRESS (16)
95
CS
WR
RD
TEMPORARY
STORAGE
(RAM)
92
98
DATA (8)
(2 X 2114)
ADDRESS (16)
DECODE
LOGIC
(8205)
93
ADDRESS (16)
97
I/O SEL
ENCRYPT SEL
KEYBOARD SEL
COMM SEL
DISPLAY SEL
IO/M
WR
RD
ADDRESS
BUS
DATA
BUS

FIG.—9

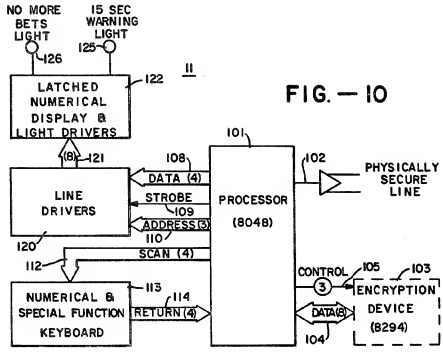

NO MORE BETS LIGHT
126
15 SEC WARNING LIGHT
125
LATCHED NUMERICAL DISPLAY & LIGHT DRIVERS
122
II
(8)
121
LINE DRIVERS
108
DATA (4)
STROBE
109
ADDRESS (3)
110
SCAN (4)
120
112
NUMERICAL & SPECIAL FUNCTION KEYBOARD
113
114
RETURN (4)
101
PROCESSOR (8048)
102
PHYSICALLY SECURE LINE
CONTROL
3
105
103
ENCRYPTION DEVICE (8294)
DATA (8)
104

FIG. — 10

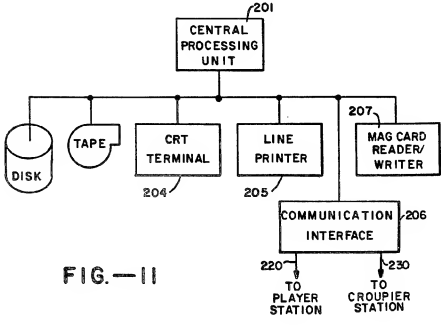

201
CENTRAL PROCESSING UNIT
DISK
TAPE
CRT TERMINAL
204
LINE PRINTER
205
207
MAG CARD READER/ WRITER
COMMUNICATION INTERFACE
206
220
TO PLAYER STATION
230
TO CROUPIER STATION

FIG. — 11

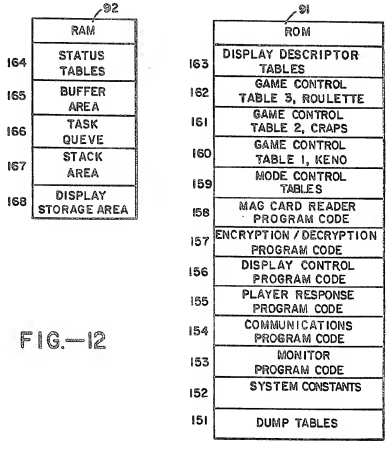

92
RAM
164
STATUS TABLES
165
BUFFER AREA
166
TASK QUEVE
167
STACK AREA
168
DISPLAY STORAGE AREA
91
ROM
163
DISPLAY DESCRIPTOR TABLES
162
GAME CONTROL TABLE 3, ROULETTE
161
GAME CONTROL TABLE 2, CRAPS
160
GAME CONTROL TABLE 1, KENO
159
MODE CONTROL TABLES
158
MAG CARD READER PROGRAM CODE
157
ENCRYPTION / DECRYPTION PROGRAM CODE
156
DISPLAY CONTROL PROGRAM CODE
155
PLAYER RESPONSE PROGRAM CODE
154
COMMUNICATIONS PROGRAM CODE
153
MONITOR PROGRAM CODE
152
SYSTEM CONSTANTS
151
DUMP TABLES

FIG.—12

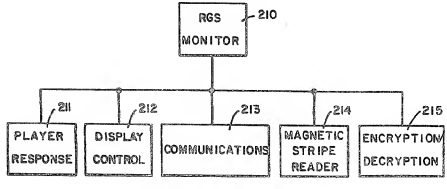
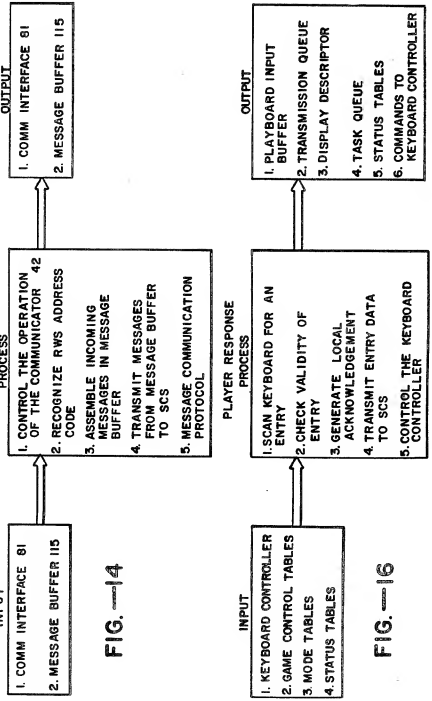

RGS MONITOR
210
211
PLAYER RESPONSE
212
DISPLAY CONTROL
213
COMMUNICATIONS
214
MAGNETIC STRIPE READER
215
ENCRYPTION DECRYPTION

FIG.—13


INPUT
1. COMM INTERFACE 81
2. MESSAGE BUFFER 115
COMMUNICATIONS PROCESS
1. CONTROL THE OPERATION OF THE COMMUNICATOR 42
2. RECOGNIZE RWS ADDRESS CODE
3. ASSEMBLE INCOMING MESSAGES IN MESSAGE BUFFER
4. TRANSMIT MESSAGES FROM MESSAGE BUFFER TO SCS
5. MESSAGE COMMUNICATION PROTOCOL
OUTPUT
1. COMM INTERFACE 81
2. MESSAGE BUFFER 115
FIG. 14
INPUT
1. KEYBOARD CONTROLLER
2. GAME CONTROL TABLES
3. MODE TABLES
4. STATUS TABLES
PLAYER RESPONSE PROCESS
1. SCAN KEYBOARD FOR AN ENTRY
2. CHECK VALIDITY OF ENTRY
3. GENERATE LOCAL ACKNOWLEDGEMENT
4. TRANSMIT ENTRY DATA TO SCS
5. CONTROL THE KEYBOARD CONTROLLER
OUTPUT
1. PLAYBOARD INPUT BUFFER
2. TRANSMISSION QUEUE
3. DISPLAY DESCRIPTOR
4. TASK QUEUE
5. STATUS TABLES
6. COMMANDS TO KEYBOARD CONTROLLER
FIG. 16

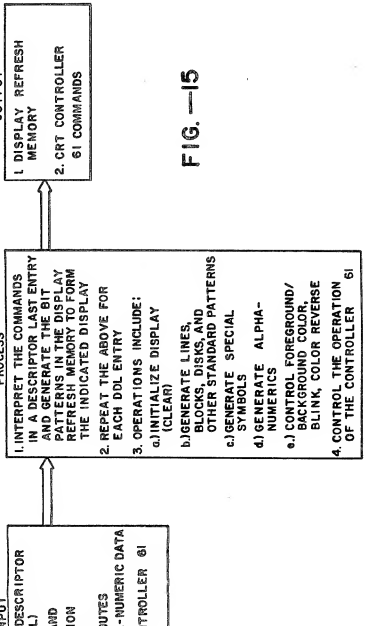

DISPLAY CONTROL
INPUT
1. DISPLAY DESCRIPTOR LIST (DDL)
a.) COMMAND
b.) LOCATION
c.) COLOR
d.) ATTRIBUTES
e.) ALPHA-NUMERIC DATA
2. CRT CONTROLLER 61 STATUS
PROCESS
1. INTERPRET THE COMMANDS IN A DESCRIPTOR LAST ENTRY AND GENERATE THE BIT PATTERNS IN THE DISPLAY REFRESH MEMORY TO FORM THE INDICATED DISPLAY
2. REPEAT THE ABOVE FOR EACH DDL ENTRY
3. OPERATIONS INCLUDE:
a.) INITIALIZE DISPLAY (CLEAR)
b.) GENERATE LINES, BLOCKS, DISKS, AND OTHER STANDARD PATTERNS
c.) GENERATE SPECIAL SYMBOLS
d.) GENERATE ALPHA-NUMERICS
e.) CONTROL FOREGROUND/BACKGROUND COLOR, BLINK, COLOR REVERSE
4. CONTROL THE OPERATION OF THE CONTROLLER 61
OUTPUT
1. DISPLAY REFRESH MEMORY
2. CRT CONTROLLER 61 COMMANDS

FIG. —15

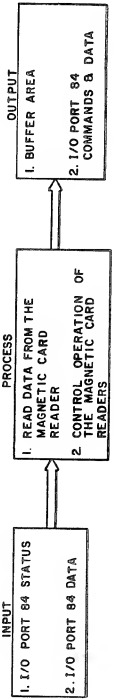

MAGNETIC CARD READERS
INPUT
1. I/O PORT 84 STATUS
2. I/O PORT 84 DATA
PROCESS
1. READ DATA FROM THE MAGNETIC CARD READER
2. CONTROL OPERATION OF THE MAGNETIC CARD READERS
OUTPUT
1. BUFFER AREA
2. I/O PORT 84 COMMANDS & DATA

FIG.—17

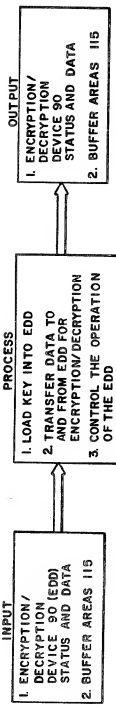

ENCRYPTION/DECRYPTION
INPUT
1. ENCRYPTION/DECRYPTION DEVICE 90 (EDD) STATUS AND DATA
2. BUFFER AREAS 115
PROCESS
1. LOAD KEY INTO EDD
2. TRANSFER DATA TO AND FROM EDD FOR ENCRYPTION/DECRYPTION
3. CONTROL THE OPERATION OF THE EDD
OUTPUT
1. ENCRYPTION/DECRYPTION DEVICE 90 STATUS AND DATA
2. BUFFER AREAS 115

FIG. — 18

REMOTE GAMING SYSTEM

This is a continuation of application Ser. No. 104,275, now U.S. Pat. No. 4,339,798 filed Dec. 17, 1979.

BACKGROUND OF THE INVENTION

The present invention relates to a remote gaming system for use with a wagering or gambling establishment such as a casino.

Heretofore, it has not in general been possible for a player to participate in wagering games such as roulette, craps or keno from a remote location because of the difficulty involved in maintaining communications with the various games, together with maintaining accurate results of each of the games for each player. For example, U.S. Pat. No. 3,810,627 discloses the capability of enabling a player to place a wager on a game from a remote location, but does not provide the capability of allowing the same player to place a wager on another game.

In order to place wagers on any one of a group of ongoing games such as roulette or craps at a casino, it is usually necessary that a player be physically present at the gaming table itself.

Moreover, some players would enjoy participating in such games but are reluctant to be directly involved at the gaming table themselves. A desirable feature of a remote wagering system would be to allow a player to participate in wagering games from the convenience and privacy of his room at a casino or, for that matter, from a hotel or motel room remotely located from the casino.

In view of the above background, it is an objective of the present invention to provide an improved remote gaming system.

SUMMARY OF THE INVENTION

The present invention relates to a remote gaming system for use with a wagering or gambling establishment such as a casino to enable a player's participation from a remote location.

In one embodiment, the system includes a croupier station, a credit station and a player station remotely located from the croupier station and the credit station. The player station includes means for enabling the player to communicate with the croupier station, a live game display for displaying a selected one of a plurality of games being played at the croupier station (such as roulette, craps or keno), playboard means for displaying a selected one of a plurality of wagering possibilities corresponding to the selected one of said plurality of games being played at said croupier station and for displaying the results of the game played at said croupier station, and processor means for controlling the operation of the player station.

The credit station includes means for enabling the player station to communicate with the croupier station upon determination that a player is authorized to participate in the wagering games in the casino with a predetermined credit limit thereby permitting participation by one or more players in a selected one of a plurality of games from remote locations.

In accordance with another embodiment of the present invention, a remote gaming terminal is provided which includes a live game display for displaying a selected one of a plurality of games being played such as craps, roulette or keno. The terminal also includes a playboard for displaying a selected one of a plurality of wagering possibilities corresponding to a selected one of a plurality of games being played. The playboard also displays the results of the game played upon completion. The playboard includes means for changing the display to enable participation in any of the games being played. Processor means are included for controlling the operation of the terminal.

In accordance with another embodiment of the present invention, the system also includes authenticator means for verifying that the particular player is authorized to be played with the selected game in progress which prevents unauthorized access to the game in progress, thereby providing a security aspect for the terminal.

In accordance with the above summary, the present invention achieves the objective of providing a remote gaming system and terminal for use in a gambling establishment for providing participation in wagering on a plurality of live games from a remote location.

Other objects and features of the present invention will become apparent from the following description when taken in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 depicts a block diagram of a remote gaming system according to the present invention.

FIG. 2 depicts a block diagram of a remote gaming terminal which forms a portion of FIG. 1.

FIG. 3A depicts a block diagram showing the implementation of a playboard display.

FIG. 3B depicts a block diagram showing the implementation of a keyboard controller for a playboard. Together these Figures depict the implementation of a playboard which forms a portion of FIG. 2.

FIG. 4 depicts a diagram of the game of roulette which can be displayed on the playboard of FIG. 2.

FIG. 5 depicts a diagram of the game of craps which can be displayed on the playboard of FIG. 2.

FIG. 6 depicts a diagram of the game of keno which can be displayed on the playboard of FIG. 2.

FIG. 7 depicts a schematic diagram of a playboard controller which forms a portion of FIG. 2.

FIG. 8 depicts a schematic diagram of a communicator and authenticator which forms a portion of FIG. 2.

FIG. 9 depicts a schematic diagram of a processor which forms a portion of FIG. 2.

FIG. 10 depicts a diagram of a croupier station which forms a portion of FIG. 1.

FIG. 11 depicts a diagram of a credit station which forms a portion of FIG. 1.

FIG. 12 depicts the organization of data structures in the random access memory and read only memory which form a portion of FIG. 9.

FIG. 13 depicts the organization of program modules for controlling the operation of the remote gaming terminal of FIG. 2.

FIGS. 14-18 depict more detailed diagrams of the program modules of FIG. 13.

DETAILED DESCRIPTION OF THE DRAWINGS

Referring now to FIG. 1, a system block diagram of a remote gaming system is depicted which includes a credit station 9, a croupier station 11 and a player station 10.

The player station **10** includes a playboard **20** which displays, as will be described, the particular game in progress which the player will observe by watching typical TV monitor **21**. Playboard **20** and monitor **21** are connected to and communicate with the casino station **11** by digital coaxial bus **22**.

The croupier station **11** includes one or more gaming tables **8** which are monitored by TV cameras **12, 13**, which provide to player station **10** a display of a game in progress via modulator **14** and coaxial bus **22** to display monitor **21** at the player station **10**. Typically, the games which can be displayed at player station **10** are craps, keno and roulette, although other games can also be displayed.

The credit station **9** includes a minicomputer **32** connected to modulator **14** via bus **19** and to the croupier station **11** via buses **17, 18** which are connected to casino display monitors **15, 16** respectively. Credit station **9** is also connected to player station **10** via coaxial bus **22** to monitor **30** and bus **31**.

Referring now to FIG. **2**, a block diagram of a remote gaming terminal **20** of FIG. **1** is depicted which includes a live game display **44**, playboard **40**, authenticator **43**, communicator **42** and processor **41** for controlling the operation of the remote gaming terminal (RGT) **20**.

The live game display **44** includes a remotely controlled color television monitor such as monitor **21** of FIG. **1**, which is connected by a standard closed circuit TV coaxial cable system **22** as depicted in FIG. **1**, which is in turn connected to TV cameras **12, 13** placed to monitor live wagering games in progress at a selected one of a plurality of croupier stations in the casino.

The TV signals are transmitted over cable **22** using standard cable-TV frequencies and modulation techniques through modulator **14** whereby monitor **21** can receive and select the desired game at the playing station **10** of FIG. **1**. Monitor **21** can be equipped with a remote control so that the player may remotely select a game to be played. The remote control device is part of the playboard **40** of the RGT **20** and is connected via bus interface to the processor via bus **50**, as described below.

The playboard **40** of FIG. **2** is depicted in more detail in FIGS. **3A** and **3B** and includes means for displaying the wagering possibilities as well as the results of the game, means to accept the wagers intended by the player and means to interface the playboard with the processor **41** of FIG. **2**.

The player-changeable playboard **40**, the implementation of which is shown FIGS. **3A** and **3B**, provides a single physical entity which may be rapidly and automatically controlled by the processor **41** of FIG. **2** to allow a player to play any of a plurality of games in progress at a casino.

For example, the playboard allows wagering on games such as craps, roulette and keno. The use of several playboards, one for each game, would be expensive, cumbersome, and confusing to a player, and a result the playboard depicted in FIGS. **3A** and **3B** allows for a plurality of games to be rapidly and automatically changed by a processor means **41** of FIG. **2** when it receives a command from the player that a new game has been selected.

In one embodiment, the changeable playboard of FIG. **3** includes color TV monitor **60** connected via buses **62, 63, 64** to CRT controller **61**, which typically is Motorola's Model 68047, which in turn is connected to the processor **41** of FIG. **2**.

Controller **61** generates a composite video signal on buses **62, 63, 64** which contains all necessary components such as luminence, chrominace and synchronization to display a particular game on monitor **60**. Clock signals on bus **66** are provided by clock circuit **65**, which in one embodiment could be a 3.58 MHz oscillator.

An example of a display to be displayed on monitor **60** is a roulette game depicted in FIG. **4**, which contains blocks of different colors for displaying possible wages in a format which simulates the format of a playing board in the live game selected. Display monitor **60** also displays items relative to the player's account such as total credit remaining and items pertinent to the game such as wagering limits, payoff odds, and time remaining in which to enter a bet.

In FIG. **7**, controller **61** generates the display under control of a sequence of control bytes of data which are stored in a display storage memory **92**. Both the processor **41** and controller **61** have the ability to access the display storage memory **92** via data bus **96**. Processor **41** stores the appropriate control bytes into the display storage memory via address bus **95, 97** and decode logic **93**, as determined by the game selected and the subsequent play of the game. Controller **61** of FIG. **3A** reads the stored data from display storage memory **92** of FIG. **7** once every 1/30th of a second and generates the appropriate TV signals on buses **62–64, 67** to cause the display of the particular game selected on monitor **60** by the processor determined information.

In FIG. **3B**, the playboard also includes a touch sensitive keyboard which may take one of several forms. In one embodiment, a matrix **70** of transparent conductors are printed on a sheet of safety glass **71** which in turn is mounted over monitor **60** so that each colored block in the display lies immediately beneath at least one matrix cross point. A player touching what appears to be colored blocks such as to place a bet on a particular number in roulette in FIG. **4** will acutally press a corresponding overlay depress point **70** of FIG. **3B**. The cross points are periodically scanned at a high rate by a keyboard controller **73** such as Intel's 8278. The principles of operation of controller **73** are described briefly below.

Bus **77** is a 4-bit bus which scans display digits and provides a column scan to keyboard controller **73** via a 4 to 16 decoder **72**. Bus **78** is a 3-bit bus used to multiplex the row return line back to controller **73** via analog multiplexer **75**, analog detector **74** and buses **79, 55**, which is an input from multiplexer **75** to indicate whether the key currently being scanned is closed. Buses **56, 57** indicate, respectively, a hysteresis output to analog detector **74** and key clock output to analog detector **74** used to reset the detector **74** before scanning a key.

When a player touches a cross point, the capacitance of transparent conductor **70** is changed, which is sensed by keyboard controller **73**, which notes the position of the player's touch and informs processor **41** of FIG. **2** that a new command is being generated by the player. This is done by generating a suitable logic level on an interrupt line to processor **41** which reads the encoded position of the player's touch by sending a read command to the keyboard controller **73** and capturing the resulting data which controller **73** places on a data bus.

To change from one game to another, only the display on monitor **60** need be changed. For each game, the display is generated so that the displayed blocks

always underlie matrix cross points 70 of FIG. 3B. Processor 41 interprets a player's touch of a particular location differently for each keyboard displayed such as depicted in FIG. 4 (for roulette), FIG. 5 (for craps), and FIG. 6 (for keno). The remote wagering terminal therefore provides means to rapidly and automatically reconfigure a single physical playboard to serve for displaying a plurality of possible games as depicted in FIGS. 4–6.

The authenticator 43 of FIG. 2 is depicted in more detail in FIG. 8 and provides means to verify that a player is authorized to use the remote gaming terminal.

In FIG. 8, the authenticator 43 includes a magnetic card reader 87 (typically AMP-210) which scans magnetically encoded data on a plastic card. As depicted in FIG. 8 the card reader 87 is connected to processor 41 of FIG. 2 via I/O port 84, which could be Intel's Model 8255. I/O port 84 reads the logic level on input line 85, 86 (which are data and clock signals, respectively) from card reader 80 and places data on data bus 96 upon command on bus 97 from processor 41 of FIG. 2. In a preferred embodiment, processor 41 periodically reads the I/O port 84 at a rate exceeding the highest clock rate on bus 86 from card reader 87. When the clock signal makes a transition from low logic level to high logic level, I/O port 84 reads and saves the data in data bus 85 from the card reader 80. Processor 41 communicates the sequence of data bits to the credit station 9 of FIG. 1 where the sequence is compared to sequences on file. If a match is found, a test command is sent back to processor 41 which causes a display of a set of tests for the player. These tests may require, for example, the player to spell out a particular predetermined word, to give a predetermined number, or to generate any predetermined sequence of matrix cross point locations. Processor 41 displays a suitable key word number under a matrix cross point of FIG. 3B and the player's response to the test is communicated to the system or credit control station 9 where it is compared to a predetermined sequence. If it matches, the player is entered into the system and the RGT 20 of FIG. 2 is enabled. If it does not match, an alarm is generated and the RGT 20 of FIG. 2 is disabled from further play.

In other embodiments of the present invention, the test sequence may be omitted in which case the match of the credit card number provides authorization for the player and the RGT 20 is enabled.

In FIG. 8, the communicator 42 of FIG. 2 is depicted in more detail and provides a means of secure communication between the processor 41 of RGT 20 and the system credit station 9.

Communicator 42 includes a modem 80, a baud rate generator 82, and a communications interface 81. The modem 80 could be a standard telephone line modem such as marketed by Bell Telephone System or as specified in the CCITT and serves to convert the digital signals from processor 41 into analog signals suitable for transmission over telephone lines or other two-line conductors such as bus 22.

Baud rate generator 82 generates a clock signal on bus 83 at the bit rate for which modem 80 is designed, which could be 1200 bits per second or 2400 bits per second, depending upon the number of remote gaming terminals connected to the system. Baud rate generator 82 also includes a digital divider which outputs one pulse per every N pulses input. The digital divider is provided with a fast clock signal on bus 98 which may be from a separate oscillator or could be a processor clock if chosen as a multiple of 2400 bits per second.

Communications interface 81 is an interface between the modem 80 and processor 41 and is typically Intel's Model 8251A. Interface 81 accepts data on bus 96 from the processor eight bits at a time on command from the processor 41 and temporarily stores data, outputting data one bit at a time sequentially to modem 80 in synchronism with the baud rate clock on bus 83. Interface 81 also accepts data sequentially from modem 80 and stores it until eight bits have been received which are then transmitted to processor over the data bus 96 upon demand.

In FIG. 8, an encryption/decryption device 90 provides further means to insure that data communicated between the remote gaming terminal 20 and the system or credit control station are not tampered with by unauthorized sources. As implemented, the device 90 is typically an Intel 8294 which is designed to implement the National Bureau of Standards encryption algorithm and accepts data on bus 96 from processor 41 in 8-bit bytes. Processor 41 provides a 56-bit key to the device 90 and sends a mode control encryption or decryption signal on bus 97 together with data on bus 96 to be encrypted or decrypted as required.

Device 90 applies the encryption or decryption algorithm to generate the appropriate data and transmits the data on bus 96 to the processor upon command. All data transmitted to the credit station is encrypted prior to its transmission. All data received from the credit station is decrypted prior to its use by processor 41.

Referring now to FIG. 9, the processor 41 of FIG. 2 is depicted in more detail and includes typically Intel's 8085 microprocessor 90 to provide computing power, read only memory (ROM) 91 to provide sufficient storage to hold the remote gaming terminal software and random access memory (RAM) 92 to hold temporary results of processing. Also included is decode logic 93 to provide means to access the playboard and communications devices by providing control signals on a portion of bus 97.

ROM 91, RAM 92 and logic 93 are each connected to microprocessor 90 via address bus 95, data bus 96 and control bus 97. Address bus 95 is 16 bits-wide allowing access to 2^{16} locations in memories 91, 92. Data bus 96 is 8-bits wide as all data is transferred via 8-bit increments or bytes. Control bus 97 provides control signals which indicate to all devices in the system whether the particular device being addressed by address bus 95 is commanded to accept data (write operation) or to place data on the data bus for connection to the processor 90 (read operation).

Processor 90 controls the address and control buses 95, 97 respectively. During a write cycle, processor 90 places data on the data bus and during a read cycle the device being addressed places data on bus 96. When the playboard or communications devices are being addressed by processor 90, the appropriate addresses are decoded and a signal selecting the address device is generated on bus 97 by logic 93. Control signals from logic 93 are output on bus 97 and include display select, communications select, keyboard select, encryption select and I/O port select.

Description of the Croupier Station

Referring now to FIG. 10, the croupier station 11 of FIG. 1 is depicted in more detail. Croupier station 11 provides a means for the croupier to input the results of

the game to the credit terminal or credit station **9** of FIG. **1**. The croupier station **11** also provides means for displaying the results of the game played at the croupier station.

Croupier station **11** of FIG. **10** includes a processor **101** (typically Intel's 8048) connected to bus **102**, which is a physically secure line for providing secure communication to the credit station. Processor **101** is connected via 4-bit bus **112** to a numerical and special function keyboard **113**. Return information from keyboard **113** is input to processor **101** via 4-bit return bus **114**.

Croupier station **11** also includes a line driver circuit **120** connected to processor **101** via 4-bit data bus **108**, strobe bus **109**, and 3-bit address bus **110**. Line drivers **120** are connected to a latched numerical display and light driver **122** via 8-bit bus **121**. Driver circuit **122** is connected to a "15-SECOND" warning light **125** and a "NO MORE BETS" light **126**.

Processor **101** scans keyboard **113** periodically to detect key closures. When a key closure is detected, processor **101** decodes the key which was closed via active scan line **112** and active return line **114**. The key closure is used to activate the display as explained below.

The key closure code is transmitted by processor **101** over a physically secure line **102** to the credit terminal. A physically secure line **102** is provided between the credit terminal and the croupier station to prevent deceptive transmission of false game results.

In an alternative implementation, an encryption device **103**, such as Intel 8294, may be used when physical security of the communication line cannot be guaranteed. Device **103** is connected to processor **101** via 8-bit data line **104** and 3-bit control line **105**.

Keyboard **113** includes a set of ten switches labeled with the numbers 0, 1, 2, . . . , 9, and special function switches labeled "ENTER," "START," "ERASE," "15 SEC TO BET" and "NO MORE BETTING." The numerical switches are used to enter the results of the game.

For example, in roulette, the croupier enters the digits of the numbers upon which the ball lands. For craps, the match point and result of each throw are entered. Processor **101** displays the number entered on display **122**. If it is correct, the croupier presses "ENTER" and processor **101** then sends the number to the credit terminal. If the croupier makes a mistake, he can correct it by using the "ERASE" key. The "15" SEC TO BET" and "NO MORE BETS" keys are depressed by the croupier at the appropriate time. The warnings are automatically sent to the credit terminal and relayed to the remote gaming terminals.

Display **122** includes one (roulette) or two (craps) two-digit numerical displays and two warning lights **125**, **126**. Display **122** is large enough and located so that the result entered by the croupier will be readily visible to the croupier, the players at the gaming table, the pit boss, and the closed circuit TV camera depicted in FIG. **1** which provides visual results to the remote gaming terminals.

The key elements of the croupier station contributing to system security are the secure communication means **102** or **103** and the large display **122**.

Without secure communication, it might be possible to break the line and enter a fraudulent result into the credit terminal. This could be done to result in incorrect payoffs to all players of a certain game.

Normally, one or more players would notice and complain; however, it is conceivable that only a few players might be playing and all could be in collusion.

Display **122** and particularly the large display of the results prevents either purposeful or accidental error on the part of the croupier which might result in an incorrect payoff. The croupier must make an error unnoticed by anyone viewing the display for the error to be effective.

DESCRIPTION OF THE CREDIT STATION

Referring now to FIG. **11**, the credit station **9** of FIG. **1** is depicted in more detail. The credit station performs the following functions in the system:

1. Issues credit cards to users.
2. Establishes user accounts.
3. Verifies authentication of the player station users.
4. Accepts commands from users through a player station to
   (a) select game;
   (b) place wager.
5. Accepts game results from croupier station.
6. Posts results to user's account.
7. Sends results to player station for display to user.

To accomplish the above functions, the credit station is configured as shown in FIG. **11** and includes a central processing unit (CPU) **201** and a variety of peripheral devices including a magnetic disk temporary storage unit **202**, a magnetic tape archival storage unit **203**, a CRT terminal **204** (for the credit operator), a magnetic card reader/writer **207**, a line printer **205**, and a set of communication interfaces **206**, which are connected to the player station and croupier station via buses **220**, **230** respectively.

CPU **201** is connected to the above identified peripheral via common bus **210**. Typically, CPU **201** and the peripherals **202**–**207** are manufactured by Data General (Nova and Eclipse Minicomputer Systems) or Digital Equipment Corporation (PDP-11/60 Minicomputer System). Redundant CPU and disks assure reliable operation.

CPU **201** provides the means to accpet messages from each of the peripheral devices, process the data contained in the messages, generates messages for each peripheral and sends the message to the peripheral device via common bus **210**.

Disk **202** provides means to store data describing the credit accounts for short periods of time. Magnetic tape unit **203** provides means to store data describing the accounts for longer periods of time. Line printer **205** provides means to print out the results of system operation and also provides means to generate a printed record of individual account activity.

CRT terminal **204** provides means for system control by a credit operator.

Magnetic card reader/writer **207** provides means to generate credit cards with suitable information encoded magnetically. Information is used by the remote gaming system to verify the authenticity of the system user.

Communication interface **206** provides means for communication with croupier stations via bus **230** and the player stations via bus **220**.

Remote Gaming Terminal Software Overview

The functions of the remote gaming terminal (RGT) are controlled by microprocessor instruction sequences and tables of data which are permanently stored in the Read Only Memory (ROM) **91** of FIG. **9** and hereinaf-

ter is referred to as the RGT firmware. The firmware is interpreted by microprocessor **90** in the RGT to cause it to generate the appropriate playboard display, sense commands entered by the player, control the magnetic card reader, communicate with the credit station, and so forth.

The implementation described herein is based upon a standard table-driven-multi-tasking approach in which separate firmware program modules are provided to perform each of the general functions required of the RGT, such as reading data from the magnetic card reader **87** of FIG. **8** or sending a message to the credit station or croupier station.

The specific operation of the system in response to a stimulus from the credit station or the player is determined by these program modules in conjunction with tables of data stored in ROM **91** and Random Access Memory (RAM) **92** of FIG. **9**. The tables in ROM **91** define the operation of the RGT for each mode of operation and game while the tables in RAM **92** contain information about the current state of operation of the RGT. Since certain operations are more important, or must be performed more rapidly than others, a prioritized list of tasks (the task queue) to be performed is maintained in RAM **92** of FIG. **9**. One program module, the monitor, serves to coordinate the activities of processor **90** by crediting entries in the task queue and transferring control to the appropriate program module in response to stimuli to the RGT and in accordance with the rules of operation represented by the data in the tables.

FIG. **12** illustrates how the ROM **91** and RAM **92** of FIG. **9** are used for the RGT. ROM **91** is assigned addresses beginning with zero and increasing to address **32767**. RAM **92** is assigned the addresses from **32767** to **65535**, the highest available address for this particular implementation. One area of ROM **91** contains jump tables **151** which constitute a directory of the addresses of various tables, program module entry addresses and buffer areas, both in ROM **91** and RAM **92**. Entries in this table may be instructions, addresses or a combination thereof. A second area contains system constants **152**, various numeric values used by the firmware such as the I/O address of the interface **81** and the control word used to place it in operation.

Next, ROM **91** contains processor instruction sequences for each of the program modules **153–158**. Each program module has one or more entry addresses associated with it which are stored in jump table **151**. Mode control tables **159** contain data which are interpreted by monitor program **153** to define those operations of the RGT not associated with a specific game. A separate set of game control tables exists for each game **160–162** corresponding to keno, craps and roulette, respectively.

The data for a specific game defines the necessary and legal sequence of operations for the RGT and the player associated with that game.

ROM **91** also contains display descriptive of tables **163** comprising data which are interpreted by the display control program **158** to form specific display patterns. These patterns range from small and simple ones such as a square to complex displays such as the entire roulette playboard depicted in FIG. **4**.

RAM **91** is used for temporary storage of data which may change during the operation of the RGT. An area is reserved for status tables **164** which defines the current status of the RGT, including information about the mode and game being played and, in conjunction with the mode and game control tables **159–162**, defines what the next operations may or must be.

Another area in RAM **92** is used for buffers **165** for the temporary storage of data being used by any of the program modules. For example, when the magnetic card reader program **158** causes a player account ID and encryption key data to be read from the magnetic card reader **87** of FIG. **8** and stored in buffer area **165** of FIG. **12**.

The player's encryption key data is held in buffer area **165** for use by the encryption/decryption program **157** and the account ID data is sent to the credit station by the operation of the communications program **154**.

A third area in RAM **92** is the task queue **166**, which is a list of data maintained and interpreted by monitor program **153** to define all of the operations or tasks currently scheduled to be accomplished by the RGT.

For example, there may be a task to retrieve data from the credit station using the communications program **154**, a task to accept data from the player using the player's response program **155** and a task to maintain a blinking display (using the display control program **158**) which prompts the player to enter a bet.

A fourth area in RAM **92** is used for a processor stack area **167**, which is an area used to temporarily store the status of the processor **90** when it must switch processing from one task to another or call a subroutine. This status data consists of the data stored in internal registers of processor **90** and other data required by the program modules involved.

In the above example, if processor **90** was executing the display control program **156** when a message arrived from the station, interface **81** of FIG. **8** would, in one embodiment, send an interrupt signal to the processor **90**. Receipt of this interrupt signal would cause processor **90** to store, or push, its current status on the stack **167** and transfer control to an interrupt processing section of the monitor program **153**, which would perform the necessary operations to begin processing the incoming message. In accordance with data in the status tables, mode control tables **159–163** and task queue **157**, the monitor **153** might return control to the interrupted display task by restoring processor status from the stack area **167**.

Detailed Description of the Program Modules

FIG. **13** shows the general organization of the program modules in which RGS monitor **210** serves as a control point for the various program modules based on data stored in tables in RAM **92** and ROM **91**. Monitor **210**, in the preferred embodiment, is real-time, multi-task monitor. The monitor's function can be understood from the overview described above and need not be described in further detail.

Each of the program modules **211–215** of FIG. **13** perform a function directly related to the operation of hardware components of the RGT, sending data to and receiving data from the subject unit. In addition, each program module interacts with the monitor **210** and other program modules by means of data stored in ROM **91** and RAM **92**. Figs. **14–18** indicate the inputs, process functions and outputs for each of these modules.

The communications program modules **213** depicted in FIG. **14** control the operation of the communicator **81** by means of signals sent to and received from interface **81**. Upon initialization of the RGT, it reads control data from the system constant area in ROM **91** and transfers this data to interface **81** to place it in the proper

mode of operation. The communications program operates to assemble incoming messages from the credit station in a message buffer area **165** in RAM **92** and to transmit messages, stored in a message buffer area by other program modules, to the credit station. This is done under the control of monitor **210**.

The communications program module **213** operates in conjunction with the communications interface **81** to manage the communications in accordance with a specified protocol. In the preferred embodiment, this is the IBM SDLC loop protocol.

The functions of the display control program **212** are depicted in FIG. **15** in which the inputs are displaying descriptor lists and the status of the CRT controller **61**. The outputs include bit patterns for the display storage area **168** of RAM **92** and commands to direct the operation of the controller **61** of FIG. **3**A.

The patterns which appear on the screen of the RGT display **30** are defined by bit patterns in display storage area **168** of RAM **92** and processed by CRT controller **61** of FIG. 3A. The display control program **213** operates on data storage in display descriptor lists which may be in the display descriptor tables **167** and ROM **91** or in a buffer area **168** in RAM **92** in order to generate the appropriate bit pattern for the display storage area **168** of RAM **92**. The specific display descriptor lists to process are identified to the display control program by data in buffer area **165** of RAM **92**.

The display descriptor lists contain the commands and specifications for characters or other graphic entities to be displayed. The commands include a code for the character figure to be displayed and specifications for its location, size, foreground and background colors and other characteristics such as blink and reverse color. Single commands to the display control tasks such as generate lines, blocks, disks. A sequence of such commands can form a display descriptor list which defines the entire display screen for a given game or operation mode.

In addition to generating the display data as described above, the display control **212** controls the operation of the CRT controller **61** by sending it commands to place in the proper mode of operations.

The inputs, functions and outputs of the player response program **211** are shown in FIG. **16** in which inputs include data from the keyboard controller **73** and data stored in the mode control tables **159**, game control tables **160–163**, and status tables **164** of FIG. **12**.

The player response program **211** causes the keyboard controller **73** to scan the "keyboard" for an entry.

When the player touches a particular control area on the RGT input panel **71**, that event is sensed and a code indicating the location of the touched area is generated. This code is checked against a table of codes for panel locations which are allowed for the game or operational mode currently in effect. If it represents a valid input, local acknowledgment to the player is generated and further inputs are disabled and the input code is transmitted to a credit station. Invalid inputs are disregarded.

The local acknowledgement is accomplished by making entry into the display descriptor table **163** and making an entry into the task queue **166** for the display program. To display an acknowledgement indication, this may be simply to blink the touched area on the screen. The code for the valid touched area is loaded into a message buffer in the buffer area **165** and a task to send it to the credit station is enqueued by making an appropriate entry for the task queue **166** for the communications program. In addition, status tables **164** are modified to the change in RGT status resulting from the player input.

The inputs, functions and outputs of the magnetic card reader program **214** are depicted in FIG. **17** in which inputs are the status of the I/O port **84** and magnetic card data which are passed through the I/O port **84**. Data are stored in buffer area **165** for use by other program modules. This program generates the necessary signals to control the magnetic card reader **87** and issues them via I/O port **84**.

The inputs, functions and outputs of the encryption/decryption program **215** are depicted in FIG. **18**. The program **215** issues the necessary control signals to the encryption/decryption device (EDD) **103** of FIG. **10** to cause it to enable the players encryption key data to be transferred into it from a buffer area **165** in RAM **92** where it has been stored by the magnetic card reader program **214**. The EDD program **215** then issues the necessary commands to encrypt or decrypt data stored in message buffer area **165** by applying the National Bureau of Standards standard encryption/decryption algorithm.

Description of Typical Operation

In order to more clearly illustrate the capabilities of the remote gaming system, a cycle of operation is described below in conjunction with the description of FIGS. **1–18**.

1. Player establishes credit.

A credit operator at the credit station **9** of FIG. **1** checks the credit and ID of a player using external means to establish the player identity and credit. Credit operator enters the ID and credit amount into the credit station **9** of FIG. **11** via the CRT terminal **204**. The credit station firmware accepts data from the CRT terminal **204** and the firmware generates an authentication number for the player. A file is generated for the player in which the player ID, the credit amount and authentication number are written on magnetic disk **202**. Also, the location of the file is stored in a directory on magnetic disk **202**.

The credit station **11** displays the authentication number on the CRT terminal **204** and writes the identification number on a magnetic card via reader/writer **207** of FIG. **11**. The credit operator then issues the magnetic card to the player and explains use of the player station and magnetic card.

2. The player activates player station.

The player inserts the magnetic card into the card reader **87** of FIG. **8** and the firmware reads the card and obtains an ID number. The RGT request authentication by a display on the player's playboard **40** of FIG. **2**.

The player enters the authentication number on the playboard **40** and if correct the software accepts authentication of the player. The terminal then sends the identification and authentication to the credit station **9** of FIG. **1**, which searches its directory on disk **202** for the location on file with the correct ID. The file is retrieved from disk **202** on which it was stored previously and the credit station checks the authentication in the file with the received message.

If correct, the credit station **9** sends the approval to proceed to the player station **10**; if otherwise, credit station **9** generates an error message requesting the player to retry. After some numbers of retrials, credit station **9** notifies the credit operator via CRT **204** of FIG. **11** and an audible alarm.

If the player station receives authorization to proceed, the player station **10** asks the player for game selection via a message on the playboard **40**.

If player station **10** receives a retry message, station **10** asks the player for authentication number via a "prompt" message on the playboard.

Assuming that the player has received authorization, he selects the game via the playboard and the terminal generates an appropriate playboard display for the selected game, such as roulette, craps or keno depicted in FIGS. **4–6**, respectively. Terminal **10** also notifies credit station **9** of the game selection.

Terminal **10** enters the game selected and enters the player's ID in the list of the players of the game selected.

3. Game is started.

The croupier at the selected game location clears his croupier station **11** by depressing the start key described in FIG. **10**. The croupier station **11** sends the start message to the credit station **9** which also sends commands to the player station **10** to clear the displays for a new game.

Player station **10** receives the message and clears the display and the croupier begins the game at the croupier station **11**.

4. The player places a wager.

The player then selects a wager by touching the appropriate area of the playboard **40** and selects the amount of the wager by touching appropriate areas on the playboard **40**.

The terminal interprets the wager and amount of entries and feeds back to the player via display on the playboard **40** (e.g., flashing the appropriate area and indicating the amount).

If the player is satisfied with the wager, he touches an area marked "ENTER WAGER" which the terminal then sends the wager and amount to the credit station **9**, which receives the message and enters the wager in a temporary file pending the results of the game.

The player may increase, decrease or otherwise change or make multiple wagers until the "NO MORE BETS" signal is displayed on the playboard **40**.

5. Game continues to the end.

Fifteen seconds prior to the end of the game, the croupier depresses the "15 SEC TO END" key **125** of FIG. **10** which sends a message to the credit station **10** of the player selecting the game. Player station **10** receives this message and displays it upon the playboard **40** and at the appropriate time the croupier depresses the "NO MORE BETS" key **126** of FIG. **10**. This message is sent from the croupier station **11** to credit station **9** and then to player station **10** to be displayed.

At the end of the game, the croupier enters the numerical results of the game on the keyboard **113** of croupier station **11** which sends the message to credit station **9**.

Credit station **9** uses the list of players playing the game to locate all appropriate game files and credit files and uses the wagers entered in the playing file with the game results to compute the amount won or lost.

Credit station **9** then credits or debits the player's account and modifies the magnetic disk record **202**.

Credit station **9** sends the message to player station **10** indicating a new account balance which is displayed on the playboard **40** of FIG. **2**.

6. Player cashes out.

The player upon completion of wagering requests an account termination from the credit operator who verifies the player's identity. Upon proper identification, the credit operator enters the request in credit station **9** via the CRT terminal **204** and retrieves the player's file and prints out an activity record on the line printer **205**. The credit operator removes the record and uses it to cash the player out.

What is claimed is:

1. A remote gaming terminal for use in a gaming system enabling a player to participate in a plurality of live games being played at a remote location, comprising:

selection means for selecting one of said plurality of live games;

a live game display responsive to said selection means for displaying a selected game;

playboard means for displaying one of a plurality of playboards, each said playboard having indicia representing wagering possibilities for a corresponding one of said plurality of live games and indicia for displaying the results for said corresponding game when played, said playboard means displaying a playboard corresponding to said selected game in response to said selection means; and

processor means responsive to said selection means for controlling said game display and said playboard means.

2. A terminal as in claim **1** including authenticator means for verifying that said terminal is authorized to be played.

3. A terminal as in claim **1** including communication means for communicating to the casino station at which the selected game is being played the selected wagering possibility corresponding to the selected game thereby enabling the wagering on said game from said terminal.

4. A terminal as in claim **1** wherein said live game display includes a remotely controllable television monitor connected to a plurality of television cameras placed to monitor said plurality of live games.

5. A terminal as in claim **1** wherein said plurality of games includes roulette.

6. A terminal as in claim **1** wherein said plurality of games includes keno.

7. A terminal as in claim **1** wherein said plurality of games includes craps.

8. A remote gaming system enabling a player to participate in a plurality of live games being played at a remote location, comprising:

a plurality of croupier stations for monitoring live game play; a credit station for initiating, monitoring, and terminating a player's wagering account; and a player station for accepting wagers and displaying results of said live game play, said player station being remotely located from said croupier station and from said credit station, said credit station including means for enabling said player station to communicate with said croupier station, and said player station including:

means for enabling said player station to communicate with said croupier station;

selection means for selecting one of said plurality of live games;

a live game display responsive to said selection means for displaying a selected game;

playboard means responsive to said selection means for displaying one of a plurality of playboards, each said playboard having indicia representing wagering possibilities for a corresponding one of

said plurality of live games and indicia for displaying the results of said corresponding game when played, said playboard means displaying a playboard corresponding to said selected game in response to said selection means; and

processor means responsive to said selection means for controlling said enabling means, said live game display, and said playboard means.

9. A system as in claim **8** including authenticator means for verifying that said player station is authorized to be played.

10. A system as in claim **8** including communication means for communicating to said croupier station the selected wagering possibility corresponding to the selected game thereby enabling the wagering on said game from said player station.

11. A system as in claim **8** wherein said live game display includes a remotely controllable television monitor connected to a plurality of television cameras placed to monitor said plurality of live games.

12. A system as in claim **8** wherein said plurality of games includes roulette.

13. A system as in claim **8** wherein said plurality of games includes keno.

14. A system as in claim **8** wherein said plurality of games includes craps.

* * * * *

(x) Related Proceedings Appendix

None.